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OCT 27 1902

ACADEMY OF NATURAL SCIENCES  
OF

PHILADELPHIA.

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ANNUAL REPORTS.

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The following annual reports were read and referred to the Publication Committee:—

## REPORT OF THE RECORDING SECRETARY.

The Recording Secretary respectfully reports that the meetings of the Academy during the greater part of the year have been unusually well attended and that the communications have been varied and interesting. The improvement is due in great measure to the plan of joint meetings of the several Sections with the Academy which was first carried into operation in March. A programme of the meetings was issued to the members with the effect of materially increasing the attendance. While communications from members of the Section to which the night is assigned have precedence, they do not exclude those from other members of the Academy and while there have been few meetings without some matter of special interest no difficulty has been experienced in affording opportunity to all who wish to obtain a hearing. Verbal communications have been made by Messrs. Leidy, McCook, Meehan, Ryder, Heilprin, Ives, Binder, Morris, Wingate, Goldsmith, Pilsbry, Foote, Koenig, Perot, Horn, J. B. Brinton, Rex, Hall, Woolman, Wilson, A. H. Smith, Hartzell, Willcox, Redfield, Dolley, Rothrock, Ford, U. C. Smith, Campbell, Sharp, Jefferis, Skinner, Baker, Thomas, D. G. Brinton, Leffman and Aaron.

Two hundred and twenty-eight pages of the Proceedings for 1888 and three hundred and thirty-six for 1889 have been issued since the last report. The current volume will be illustrated by thirteen plates. In connection with the Academy's regular publications mention should also be made of the Manual of Conchology which, since the death of Mr. Geo. W. Tryon Jr., in Feb. 1888, has become the property of the Conchological Section and has been promptly issued in two series under the editorship of Mr. H. A. Pilsbry. Of the Marine Series three hundred and twenty pages of text and seventy-five colored plates, and of the series devoted to Land Mollusca two hundred and seventy-nine pages and seventy plates have been issued during the year. It is gratifying to know that the high standard established for the work by Mr. Tryon has been maintained and that the subscription list is sufficient to more than pay the expense of issuing the work.

In addition to the Transactions of the American Entomological Society, of which three hundred and twenty pages and seven plates have been issued, the Entomological Section of the Academy is about to begin the publication, under the editorship of Eugene M. Aaron, of a monthly journal to be entitled, "The Entomological News." It will thus be seen that no less than one thousand four hundred and eighty-three pages and one hundred and sixty-five plates have been published by the Academy and its Sections since the last annual report and that operations in this department are to be extended during the coming year.

Forty-three papers have been presented for publication in the Proceedings by the following authors:—H. A. Pilsbry 4, J. E. Ives 3, Witmer Stone 3, Charles R. Keyes 3, J. A. Ryder 2, Eugene N. S. Ringueberg 2, W. D. Hartman 2, George Marx 2, F. C. Baker 2, F. A. Genth 1, T. Meehan 1, Jos. Leidy 1, Angelo Heilprin 1, E. Goldsmith 1, W. B. Scott 1, W. H. Dall 1, Harold Wingate 1, H. Allen 1, John Eyerman 1, S. W. Williston 1, Chas. S. Bollman 1, J. P. McMurich 1, J. Gardner 1, W. L. Morrison 1, P. H. Kirsch 1, David S. Jordan and Burt Fesler 1, S. E. Meek and C. F. Bollman 1, J. M. Safford and A. W. Vogdes 1, P. H. Kirsch and M. W. Fordice 1. Four of these have been withdrawn by the authors and the others have been published or are now in the hands of the printer. Among the most important matter contributed to the volume were the papers by various authors in continuation of those published prior to the last report giving the results of Prof. Heilprin's explorations of the Bermudas in July, 1888.

The number of copies of the Proceedings distributed is as follows: Foreign exchange 399, domestic exchange 70, subscribers 107; total 576.

Twenty-two members and five correspondents were elected. The deaths of six members and three correspondents were announced. The resignations of two members, Samuel Wagner and W. H. Eisenbrey, were accepted.

The vacancy in the Council, caused by the death of Geo. Y. Shoemaker, June 18th, was filled by the election, June 25th, of Uselma C. Smith.

A committee consisting of Messrs. Jos. Leidy, J. P. Lesley, Persifor Frazer, Angelo Heilprin and W. B. Scott was appointed February 5th, to consider the proper award of the Hayden Memorial Medal. No action on the subject has yet been reported.

One of the most important events of the year was the consideration of an invitation from the University of Pennsylvania to the Academy to remove to a plot of ground in West Philadelphia in immediate proximity to the University. After mature consideration by the Council, to which the subject was referred for consideration and report, a resolution respectfully declining the invitation was adopted by the Academy by a vote of sixty-eight in the affirmative to three in the negative.

A committee was appointed January 29th to consider the propriety of giving a series of social entertainments to serve as reunions of the members with a view to promoting the interest and efficiency of the meetings of the Academy. The committee having reported favorably they were authorized to receive subscriptions to the necessary fund, the understanding being that no expense should be incurred by the Academy. Sufficient encouragement has been received to provide for at least three of the contemplated reunions, arrangements for the first of which will be made when a favorable opportunity presents itself.

The Academy is to be congratulated on having received from the Legislature substantial recognition in an appropriation of \$50,000 towards the erection of the new building so pressingly needed for the arrangement and exhibition of the rapidly growing collections. A detailed statement of the steps taken to begin the work of erection at an early date will be found in the report of the Curators.

By resolution of the Academy the hall was placed at the service of Dr. J. T. Rothrock for the delivery of a course of seven Michaux Lectures to extend from Dec. 4, 1889, to Jan. 29, 1890.

All of which is respectfully submitted.

EDW. J. NOLAN,

*Recording Secretary.*

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## REPORT OF CORRESPONDING SECRETARY.

The correspondence of the past year has been almost entirely in reference to the publications of the Academy and has consisted of acknowledgments from corresponding societies or letters of transmittal from them, usually accompanying their publications.

The plan adopted several years ago of sending our publications by mail to the more active societies at home and abroad seems to be working very satisfactorily and the prompt acknowledgment, usu-

ally by card, and the very small number of inquiries for missing parts show that there is practically no loss in the mail. A great advantage results in making known, at the earliest possible moment, the researches of those who make our pages valuable and the various zoological and other records are enabled to give an epitome of them within the year for which they are published.

Acknowledgment of the reception of our publications has been made, by sixty-three postal-cards and by seventy-three letters, the former all representing mail transmissions while a large number of the latter should be so counted. Letters of envoy number barely forty, being a decrease in number from past years due, doubtless, to the use of the mail in sending to us.

A pleasing indication is afforded by a portion of the correspondence from various parts of our country, desiring copies of our by-laws and asking for such information as will enable the formation of a society on the plan of our organization. These have been promptly answered and the future will doubtless show some results.

During the year three correspondents have been elected and notification has been promptly sent. Replies have been received from all where time has been sufficient to permit it.

The additions to the Museum have been numerous, and have been acknowledged by the Curator-in-Charge, as will be learned from his report.

Respectfully submitted,

GEORGE H. HORN, M. D.,

*Corresponding Secretary.*

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## REPORT OF THE LIBRARIAN.

The annual statistics of the Librarian's report indicate that the year ending November 30, 1889, has been an unusually prosperous one in the department of the Academy of which he has charge. The additions received number 4,446, an increase of 489 over the growth of 1888 and of 1,066 over that of the preceding year. Six hundred and eighty volumes, 3,786 pamphlets and parts of periodicals and continued works and 26 maps are recorded.



They were received from the following sources :

Societies, . . . . .	1842	Minister of Public Works, France, . . . . .	3
Editors, . . . . .	895	Geological Survey of Kentucky, . . . . .	3
I. V. Williamson Fund, . . . . .	815	Government of Victoria, . . . . .	3
Miss Frances Lea, . . . . .	295	Australian Government, . . . . .	3
Authors, . . . . .	186	U. S. War Department, . . . . .	2
Prof. A. Heilprin, . . . . .	58	Wm. W. Jefferis, . . . . .	2
East Indian Government, . . . . .	36	Geological Survey of Minnesota, . . . . .	2
U. S. Department of the Interior, . . . . .	34	Geological Survey of Portugal, . . . . .	2
Wilson Fund, . . . . .	28	Department of Mines, N. S. W., . . . . .	2
Thomas Meehan, . . . . .	28	Geological Survey of N. J., . . . . .	1
U. S. Department of Agriculture, . . . . .	28	University of Pennsylvania, . . . . .	1
Purchased by special appropriation, . . . . .	19	New York State Museum of Nat- ural History, . . . . .	1
U. S. Department of State, . . . . .	16	Pennsylvania State Board of Health, . . . . .	1
John C. Sinclair, . . . . .	16	State Mineralogist, California, . . . . .	1
Stewart Culin, . . . . .	15	Geological Survey of Texas, . . . . .	1
Charles M. Betts, . . . . .	13	Michigan Forestry Commission, . . . . .	1
New York State Library, . . . . .	12	J. H. Redfield, . . . . .	1
U. S. Treasury Department, . . . . .	11	Department of Mines, Nova Scotia, . . . . .	1
U. S. Fish Commission, . . . . .	10	Geological Survey of New Zea- land, . . . . .	1
Geological Survey of Roumania, . . . . .	9	Messrs. Tiffany & Co., . . . . .	1
H. B. M. Government, . . . . .	7	Harold Wingate, . . . . .	1
Geological Survey of Penna., . . . . .	5	Charles Morris, . . . . .	1
Wm. John Potts, . . . . .	5	Lewis Woolman, . . . . .	1
Trustees of the British Museum, . . . . .	5	Geological Survey of Canada, . . . . .	1
H. A. Pilsbry, . . . . .	4	Mrs. R. C. Taylor, . . . . .	1
Henry N. Rittenhouse, . . . . .	4		
Geological Survey of India, . . . . .	4		
Engineer Department U. S. A., . . . . .	4		
Geological Survey of Finland, . . . . .	4		

They have been distributed to the several departments of the library as follows :—

Journals, . . . . .	3418	Encyclopedias, . . . . .	17
Geology, . . . . .	366	Mammalogy, . . . . .	16
Botany, . . . . .	153	Public Documents, . . . . .	15
Conchology, . . . . .	77	Ichthyology, . . . . .	14
General Natural History, . . . . .	76	Helminthology, . . . . .	11
Entomology, . . . . .	50	Medicine, . . . . .	8
Anatomy and Physiology, . . . . .	44	Herpetology, . . . . .	6
Anthropology, . . . . .	37	Chemistry, . . . . .	5
Ornithology, . . . . .	28	Bibliography, . . . . .	4
Mineralogy, . . . . .	28	Geography, . . . . .	3
Voyages and Travels, . . . . .	20	Agricultural, . . . . .	3
Physical Science, . . . . .	18	Unclassified, . . . . .	29

The accompanying lists of donations, exchanges and purchases render unnecessary any special comment on the character of the additions.

In consequence of over-draft of the I. V. Williamson Fund as reported last year by the Treasurer, a special appropriation of \$500 from the general funds of the Academy was made. Orders to the full amount of the Library Committee's resources are outstanding.

The necessity for a binding fund becomes more urgent, only one hundred and thirty-eight of the volumes most constantly in use having been bound during the year.

A priced catalogue of the duplicates in the library has been prepared. To derive the most benefit from the list it should be printed and distributed to those likely to be interested in separate numbers and incomplete sets of periodicals of which the collection for the most part consists.

A large and valuable collection of maps, the extent of which had not been suspected, has been classified and catalogued. It is very desirable that special receptacles be prepared for these so that they may be more readily examined than is at present possible.

Early in the year the title entries of journals and periodicals were completed and the catalogue arranged in the drawers for use. The work has been supplemented by a convenient hand-list or guide to the arrangement of periodicals on the shelves and also by a general subject index.

These lists are all, of course, kept complete to date so that nothing remains to be done in the department of journals and periodicals short of a subject-catalogue of scientific communications which is an undertaking of such extent as to be at present beyond the means of the Academy. Such a work would be an invaluable aid to the naturalist, supplying to him what the superb Index-Catalogue of the Surgeon-General's Office provides for the physician, but it must be either the result of co-operation among several scientific societies or the cost must be defrayed by government appropriation, as in the case of the work referred to, or by an institution possessed of a large income such as the Royal Society of London, to which we are indebted for the indispensable author-catalogue of scientific papers.

Although such work on the periodicals of the library must, therefore, be deferred, satisfactory progress has been made on a subject-catalogue of the special departments. The subject-registry of Voyages and Travels and Geology has been completed and the work is now going on rapidly in the section of General Natural History. The arrangement of the cards will be continuously alphabetical without any sub-division into classes other than that which depends on the initial subject word. It is believed that clearness and simplicity will be thus secured and that those who use the library will be able to avail themselves of the catalogue without the assistance of the trained attendants or pages who are usually required to interpret

elaborate systems of bibliographical classification. If in the future it be found desirable to prepare special hand-lists for the use of students in the different departments of the Academy this can readily be done by copying the author and subject entries belonging to the several classes as indicated by the class abbreviation written on the upper left-hand margin of the cards.

Most of the work here reported, apart from the daily routine of the library, has depended on the continued engagement, thanks to a number of liberal friends of the Academy, of Signor Emanuele Fronani whose efficient assistance the Librarian has pleasure in acknowledging. In the current work of the year the intelligent aid rendered by William J. Fox is also worthy of note.

All of which is respectfully submitted,

EDW. J. NOLAN,

*Librarian.*

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## REPORT OF THE CURATORS.

The Curators present the following statement of the Curator-in-Charge as their report for the year 1889 :—

The Curator-in-Charge respectfully reports that the general condition of the Academy's collections is satisfactory, except in so far as excessive crowding of material has interfered with the proper display and systematic placing of specimens. This lack of room has been an evil badly felt by the Academy for several years—indeed, almost from the date of the first occupation of the present building. The surprisingly rapid growth of the collections in certain departments has kept far ahead of the Academy's power to provide suitable accommodation, and the time has at last arrived when even excessive crowding has reached a practical limit. The numerous appeals for relief, that have been made from time to time, several of them addressed to the Legislature of the State, and which have been but indifferently responded to, have finally met with substantial recognition in an appropriation of \$50,000 made by the last Legislature. The hope is held out that a like appropriation, to cover the full amount of the Academy's application to the State for the purposes of a new building, may be made by the Legislature at its next session.

With the necessities of existing conditions, and the encouragement of a friendly response from the generous citizens of our

metropolis, the Academy has seen fit to prepare plans for the much-needed new building, and it is expected that active work on the structure will begin with the early part of the present winter. The main portion of the contemplated new museum-building will be in the form of an irregular square, fronting on 19th street 155 feet and on Cherry street 130 feet, thus presenting a surface-area of 20,150 feet. Four tiers of galleries, each in the main, 32 feet in width, will surround an open central hall, to which unbroken illumination will be afforded by a tunnelled glass roof, springing at a height of some 80 feet above the floor. Office and laboratory rooms will be provided on the ground floor beneath the first gallery, while a number of external preparation rooms will adjoin the building on the north side. A two-story building, measuring 54 feet by 48, and furnishing a lecture-amphitheater designed to accommodate 650 persons, will unite the new structure with the edifice now occupied by the Academy. With this separation of the two buildings there will be little interference with the necessary illumination.

The cost of the building, which will permit of some 67,000 square feet of floor-surface available for museum purposes alone—not counting here the offices and laboratories—is placed at \$239,000. The needs of the Academy make it imperative that this amount, together with a further sum of \$50–60,000 for cases, be secured, and it is earnestly hoped that the best endeavors will be made to provide the desired funds at as early a day as possible. All delay is now directly hurtful to the institution, and to the interests to which the Academy ministers.

The collections of the Academy have been efficiently cared for during the year, and the Curator-in-Charge is again obliged to acknowledge his indebtedness to the numerous workers who have voluntarily or otherwise rendered their services to the Academy. The Conservators of the Botanical, Conchological, Geological and Entomological Sections may be specially mentioned in this connection; likewise, the Conservator of the Wm. S. Vaux collections. The ornithological department has profited largely through the labors of Mr. Witmer Stone, who, apart from other work in connection with classifying and arranging, has systematically applied himself to the redetermination of the species of Falconidæ, Vulturidæ, Strigidæ, Corvidæ, Paradiseidæ, Oriolidæ, Dieruridæ, Campephagidæ and Muscipidæ. Three thousand four hundred specimens representing these families have been identified, numbered and catalogued

during the year. The systematic cataloguing of the entire collection of birds is now fairly under way, and with such progress as has been made, it is believed that the work will be completed before many years. The publication of special annotated lists, accompanying the identifications, is an important feature of Mr. Stone's work.

To my special assistant, Mr. J. E. Ives, I am indebted for a large amount of labor in connection with the determination and classification of new and old material in the possession of the Academy, principally among the alcoholics. The refuse of accumulated material is thus being gradually disposed of, and with the additional space which is assured to the Academy, the full collection will shortly be in a condition to be systematically placed. Dr. G. Baur, of New Haven, has rendered valuable assistance through his critical studies of the Academy's Testudinata, which were placed in his hands for revision and cataloguing. This collection, which is rich in types and rare species, numbers 429 specimens. These have all been redetermined and labeled.

The elaboration of the large collection of material brought from the Bermuda Islands in the summer of 1888 by the Curator-in-Charge and a class of students from the Academy has been completed, except as to one or two of the lower groups of organisms (sponges). This material has furnished subject for several important papers by different specialists, which have been published in part in the Proceedings of the Academy and in part in an independent publication on the physical history and zoology of the Bermudas by the undersigned. The greater part of the material collected proved new to the Academy's collections, while much of it was new to science. The success of, and very light expense attending, the expedition show how much may be accomplished even with little effort in zoogeographical research, and encourages the hope that researches of a similar nature may hereafter be systematically conducted under the auspices of the Academy.

The losses to the Academy's collection during the year have been insignificant. Less than a dozen specimens have been removed from the museum as having passed beyond the period of their usefulness. Specimens were loaned for study during the year to Prof. Alfred Newton, of Cambridge, England; to Prof. O. C. Marsh and Dr. G. Baur, of New Haven; to Dr. W. B. Clark, of Batimore; to Dr.

Harrison Allen, of this city; and to Mr. Charles B. Cory, of Boston. Some of this material is still outstanding.

Respectfully submitted,

ANGELO HEILPRIN,

*Curator-in-Charge.*

JOSEPH LEIDY,

*Ch'n Curators.*

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## REPORT OF THE BIOLOGICAL AND MICRO-SCOPICAL SECTION.

During the past year ten meetings were held with an average attendance of eight members.

The following new members were elected:—Harold Wingate, Lancaster Thomas, Edward Bancroft.

H. H. Burchard was admitted as a contributor.

The following is a summary of the work done during the year:—

December 3, 1888. Resumé of biological work during 1888, lecture by Prof. John A. Ryder.

December 3, 1888. Communication upon *Helicosporium ellipticum*, by Dr. Geo. A. Rex.

December 3, 1888. Notacordal cells, by Prof. Ryder.

January 7, 1889. Upon the Pitcher plants in reference to their digestive function, by Dr. J. B. Brinton.

January 21, 1889. Upon the cultivation of Fungi, by Dr. Rex.

February 4, 1889. Rock sections, by Lancaster Thomas.

February 4, 1889. Upon *Botrytis*, by Dr. L. Brewer Hall.

February 18, 1889. Upon two new species of *Trichia* from Montana, by Dr. Rex.

February 18, 1889. Diatoms from Mobile Bay, by Dr. Hall.

March 4, 1889. Upon *Psoriasis*, and on different methods of staining, by Dr. Hartzell.

March 4, 1889. Upon *Hemiarcyria Karstenii*, by Mr. Wingate.

May 6, 1889. Upon *Karyokinesis*, by Prof. Ryder.

May 6, 1889. A new *Fuligo* from Nebraska, by Dr. Rex.

June 3, 1889. Upon Fungi, by Dr. Rex.

November 4, 1889. Upon the generic characteristics of *Comatricha*, by Dr. Rex.

November 4, 1889. Upon a new Myxomycete *Chondrioderma*, by Mr. Wingate.

In addition to the above, many interesting communications were made at the joint meetings of the Academy and the Section.

The officers elected for the ensuing year were:—

<i>Director,</i>	.	.	.	.	Harold Wingate.
<i>Vice Director,</i>	.	.	.	.	John C. Wilson.
<i>Recorder,</i>	.	.	.	.	Dr. Robert J. Hess.
<i>Treasurer,</i>	.	.	.	.	Dr. Isaac Norris, Jr.
<i>Conservator,</i>	.	.	.	.	Charles P. Perot.
<i>Corresponding Sec.</i>	.	.	.	.	Dr. Charles Schæffer.

Very respectfully submitted,

ROBERT J. HESS, M. D.,  
*Recorder.*

## REPORT OF THE CONCHOLOGICAL SECTION.

The Recorder of the Conchological Section reports that the more important work transacted during the year has been the regular issue of the *Manual of Conchology* and the arrangement of the cabinet in connection with the necessary study of material as the several families have been reached. Four numbers of each of the two series of the *Manual* have been published, the parts of the marine series embracing the Turbinidæ, Delphinulidæ and portion of the Trochidæ, while the parts of the second series devoted to the land mollusca treat of the Helicidæ of the West Indies and South America. The former consists of 320 pages of text and 75 plates while the latter includes 279 pages and 70 plates. The Section has pleasure in acknowledging the efficient services of the editor, Mr. Henry A. Pilsbry, to whom belongs the credit of maintaining the standard of excellence established by Mr. Tryon. It is gratifying to be able to report that the work is more than self-supporting. The meetings held in connection with the Academy, in harmony with the suggestion adopted by the latter last spring, have been rendered interesting by communications from Messrs. Pilsbry, Baker, Heilprin, Ford, Campbell and U. C. Smith. At the meeting held Dec. 5th, the following officers were elected to serve during the ensuing year:—

<i>Director,</i>	.	.	.	.	W. S. W. Ruschenberger.
<i>Vice Director,</i>	.	.	.	.	John Ford.
<i>Recorder,</i>	.	.	.	.	Edward J. Nolan.
<i>Secretary,</i>	.	.	.	.	J. H. Redfield.

<i>Treasurer,</i>	.	.	.	.	S. R. Roberts.
<i>Librarian,</i>	.	.	.	.	Edward J. Nolan.
<i>Conservator,</i>	.	.	.	.	Henry A. Pilsbry.

Since the last annual meeting of the Section specimens have been received from forty-three persons, numbering in all 851 trays and 6,636 specimens. This brings the aggregate number of trays in the museum to 52,787. The more valuable series received are those collected by Prof. Heilprin at the Bermuda Islands, the Lower Californian shells purchased by the Conchological Section from Henry Hemphill, and a series of shells from Tonquin, China, and the East Indies obtained of the Abbé Vathelet. Valuable additions to the fauna of our eastern coast have been received from Messrs. Uselma C. Smith and John Ford. We have also received from various correspondents of the Conservator, several hundred species of United States and Mexican land and fresh-water shells, including a number of new species, part of which have been already published in the Proceedings of the Academy.

During the year the arrangement of the families Neritidæ and Turbinidæ, in progress at the time of the last report, has been completed, and that of the Trochidæ, Stomatellidæ and Scissurellidæ will be completed by the end of the present month. Of the Helices, the groups monographed in the Manual during the year have been arranged, and work begun on the groups of European Helices, heretofore in a chaotic condition. The conservator having secured the assistance of Mr. Baker during a part of each day, can now complete the arrangement of all unarranged groups as far as the Manual has progressed as soon as additional cases can be secured. Museum work on the land shells has at present temporarily ceased from lack of room.

H. A. PILSBRY,

*Conservator.*

EDWARD J. NOLAN,

*Recorder.*

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## REPORT OF THE ENTOMOLOGICAL SECTION.

The Entomological Section, during the past year, has been much benefited by an evident increase of interest at its meetings. These have been held regularly each month, excepting during the July and August vacation. There has been a large attendance of members and associates. One member and one associate member have been elected since the last report.



The collection in the care of the Section has been carefully examined by the Curator of the American Entomological Society, and its condition is now much better than heretofore.

The entomological collection of the late Titian R. Peale, Esq., which was presented to the Academy, has been transferred to the care of the Section. After selecting therefrom much that was spoiled for want of care, the remainder has been reset and labeled as the "T. R. Peale Collection," in accordance with the expressed wish of the heirs.

In compliance with the request of the Academy, the Entomological Section has selected the meeting of the second Tuesday of each alternate month at which to bring before the Academy matters pertaining to entomology.

The meetings of the Section have been much enhanced in interest by the reports of collections and observations by its members, some of whom have still further detailed the same in published articles.

The Section desiring to make its influence more generally felt by the students of Entomology, has determined to issue a publication to be known as "The Entomological News and Proceedings of the Entomological Section of the Academy Natural Sciences of Philadelphia." It will be issued monthly in parts of not less than 16 pages, and will contain, together with the proceedings, articles from contributors and a general resumé of entomological matter. Mr. E. M. Aaron has been appointed editor, with a supervisory committee to assist in the details of the work.

At the meeting in December the following officers were elected:—

*Director,* . . . . Geo. H. Horn, M. D.

*Vice Director,* . . . . H. C. McCook, D. D.

*Treasurer,* . . . . E. T. Cresson.

*Recorder,* . . . . E. M. Aaron.

*Publication Com.* . . . { J. H. Ridings.  
Philip Laurent.

Respectfully submitted,

JAS. H. RIDINGS,  
*Recorder.*

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## REPORT OF THE BOTANICAL SECTION.

The Vice-Director of the Botanical Section respectfully reports that the stated meetings have been held regularly during the year,

and that the attendance on, and interest in them have been fully maintained. The section is out of debt, and has a surplus in its treasury ; including a donation of \$100 from W. G. Warden towards a share in the botanical explorations in Asia Minor, now undertaken by Prof. Bornmuller, Director of the Royal Gardens of Belgrade.

Through the interest of members of the Section a number of Botanical Works have been added to the library of the Acad my, while the additions to the Herbarium number 2,174, of which 1,585 are of flowering plants and ferns. Of these 36 represent genera not before in our collection, while of species, 585 are new additions. These new additions bring the number of vascular species represented in the Herbarium to about 28,805. The additions to the lower cryptogams are 589.

The conservator's account of the additions in detail is appended as part of this report ; as also an abstract of the detailed work of the Section by the Recorder.

Respectfully submitted,

THOMAS MEEHAN,

*Vice-Director.*

*Conservator's Report for 1889.*—The Conservator respectfully submits the following annual report upon the state of the Academy's Herbarium :—

The most important additions made during the past year are of species from Tropical America, among which are worthy of special enumeration, 300 species from the State of Tabasco, Mexico, presented by Prof. Jos  N. Rovirosa ; 373 species from Guatemala, collected by H. Von T rckheim and presented by John Donnell Smith, of Baltimore ; 243 species from the northern provinces of Mexico, collected by C. G. Pringle in 1888, presented by the Conservator, and 116 species collected by Dr. E. Palmer at San Quentin Bay in Lower California and presented by the U. S. Department of Agriculture.

Through the kindness of Dr. Sereno Watson, of Cambridge, Mass., we have received from J. Thistleton Dyer, of the Kew Herbarium, Drummond's Mosses of the Rocky Mountains and British America, mounted in two volumes and embracing 249 species and 33 varieties.

From Ellis and Everhart we have received the 22nd and 23rd Centuries of North American Fungi, also a special and selected

Century of rare Fungi, in exchange for duplicate earlier Centuries received from the Estate of Dr. Geo. Martin.

Other important additions which will appear in the detailed list presented to the Academy, will raise the whole number of species received during the year to 2,174, of which 1,585 are Phanerogams and Ferns. Of these 585 are new to our collection, and 36 are of genera not before represented. Two hundred and thirty-nine are North American, 1,077 are from Tropical and South America, 144 are from the Eastern Continent and 125 are Australian and Polynesian. The remaining 589 species received are of Lower Cryptogams. How many of these are absolutely new to us we are at present not able to determine, from the fact that we lack catalogues of our large collections in that department. It is much to be desired that the Committee in charge of our Fungi shall be able soon to accomplish the work committed to them, for its completion will be a great step towards supplying the need referred to.

The number of species of vascular plants now in the Herbarium is estimated at 28,805.

All of the accessions of the past year have been carefully poisoned to prevent the ravages of insects, and the North American species have been mounted.

Respectfully submitted,

JOHN H. REDFIELD,  
*Conservator.*

The Recorder makes the following report of the transactions of the Section during the current year:—

Nine meetings have been held with an average attendance of eight members each, excluding the present meeting.

Communications of great interest have been made by Messrs. Meehan and Redfield, and Drs. Rothrock, Wilson, Brinton, Rex and others.

During the present year a special effort has been made by the Section, at the request of the Academy, to add to the interest of the general meetings, by bringing matters of Botanical interest before the Academy at stated periods.

The announcement of the rediscovery of an old locality of *Cor-ema Conradii* on the New Jersey coast was made; also of a new locality of the same plant on the Maine coast; also the finding of the arctic *Stellaria humifusa* on the Maine coast was announced.

An excursion of great interest, to the Pocono Mt., in company with the Torrey Botanical Club of New York, was made, in which *Botrychium simplex* was found.

The following officers were elected to serve during the ensuing year :—

<i>Director,</i>	. . . .	W. S. W. Ruschenberger.
<i>Vice Director,</i>	. . . .	Thomas Meehan.
<i>Corresponding Sec.</i>	. . . .	Isaac C. Martindale.
<i>Treasurer,</i>	. . . .	Isaac C. Martindale.
<i>Conservator,</i>	. . . .	John H. Redfield.
<i>Recorder,</i>	. . . .	Charles Schäffer.

All of which is respectfully submitted,

CHARLES SCHAFFER,

*Recorder.*

## REPORT OF THE MINERALOGICAL AND GEOLOGICAL SECTION.

The Director of the Mineralogical and Geological Section would respectfully report that owing to the unusual absence from the city of the members most active in the Section, the meetings have not been as numerous or as large as in former years but there has been no lack of interest. The meetings jointly with the Academy have been generally regarded as interesting and successful. Considerable additions have been made to the collection. Many of the specimens were procured by purchase with the funds of the Section.

The following officers were elected to serve during the ensuing year :—

<i>Director,</i>	. . . .	Theodore D. Rand.
<i>Vice Director,</i>	. . . .	W. S. W. Ruschenberger.
<i>Treasurer,</i>	. . . .	John Ford.
<i>Conservator,</i>	. . . .	William W. Jefferis.
<i>Recorder and Secretary,</i>	. . . .	Charles Schäffer.

Respectfully submitted,

THEO. D. RAND,

*Director.*

## REPORT OF THE PROFESSOR OF INVERTEBRATE PALEONTOLOGY.

The Professor of Invertebrate Paleontology respectfully reports that owing to the unfortunate circumstances attending the illness of the late Chairman of the Committee on Instruction, and the failure to have the course of lectures outlined ratified in time for the spring season, he has been obliged to forego the delivery of the regular course of instruction in his department this year. An attempt to have these lectures delivered in the autumn months was frustrated by the unusual amount of work which had fallen into his hands.

The geological and paleontological collections of the Academy are steadily receiving important accessions of material, but, as in all other departments of the institution, they suffer largely from lack of room for their proper disposition and arrangement. A further systematic display without stacking is no longer possible; indeed, the foreign collections have long since been dispossessed of their proper space to make room for the rapidly increasing collections illustrating American geology. The growth during the last few years has been most rapid in the field of tertiary paleontology, where the Academy's collections stand unrivalled. This is also true of the representation of the cretaceous series, but as regards paleozoic paleontology the Academy has always been sadly deficient. The extensive collections of the Pennsylvania Geological Survey, which are now in the custody of the Academy, and to the exhibition of which ample space will be given in the proposed new building, will make good this deficiency, and place the entire collection in a condition of unusual completeness. The cataloguing and numbering of the Survey's collection was completed during the year by officers of the Survey.

Among the more important accessions to the Academy's collections during the year may be instanced the extensive series of tertiary fossils transmitted to the undersigned by the State Geologists of Texas, representing the collections recently made by the Survey of that State. These have not yet been thoroughly worked over. They represent much the largest series of tertiary fossils that has been thus far obtained from the State, and throw important light upon the geology of the Gulf basin. A report will accompany their final study. Another important addition to the collections made during the year is a series of fossiliferous and highly metamorphosed rocks from the Calcareous (?) horizon of the region about Philadelphia, the first

fossil-bearing rocks which have been obtained from this horizon in that portion of the State. The greater part of this important donation the Academy owes to the generosity of Mr. Louis Woolman.

Respectfully submitted,

ANGELO HEILPRIN,

*Professor of Invertebrate Paleontology.*

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## REPORT OF THE PROFESSOR OF ETHNOLOGY AND ARCHÆOLOGY.

Owing to my absence in the late winter and spring of the current year, the usual course of lectures was omitted, compensation for which will be made by an unusually full course planned for the present season.

No important additions have been received in the collections of these departments, though it would be easy to acquire large accessions were proper space for their display available. This we may expect at an early date in the new building.

Respectfully submitted,

D. G. BRINTON,

*Professor of Ethnology and Archæology.*

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## REPORT OF THE PROFESSOR OF INVERTEBRATE ZOOLOGY.

The Professor of Invertebrate Zoology respectfully reports that, having a leave of absence, he spent the winter of 1888-1889 on the Islands of the Lesser Antilles, for the purpose of making collections. Some specimens have been already given to the Academy and he hopes soon to have them all ready for presentation. Owing to his absence from Philadelphia he was unable to deliver any lectures during the past year.

It is proposed to give a course of five lectures during the spring of the coming year on "The Caribbean Islands."

The additions to the museum for the year have been quite important. In addition to specimens of general interest, Mr. W. N. Lockington has presented a collection of starfishes, echinoderms, crustacea

and coelenterates, collected on the Californian coast of the United States. A large number of coelenterates, principally coralline forms and sponges, anthropods, echinoderms and a few worms and ascidians—collected by the expedition to the Bermudas conducted by Prof. A. Heilprin, have been presented. Many new species have been found in this collection and described. Prof. H. C. Chapman has also added to the collection, worms, crustaceans and coelenterates, collected on the coast of Maine.

Respectfully submitted,

BENJAMIN SHARP,

*Professor of Invertebrate Zoology.*

# SUMMARY OF THE REPORT OF WM. C. HENSZEY, TREASURER.

FOR THE YEAR ENDING NOV. 30, 1889.

## DR.

To Balance from last account.....	1602 66
“ Initiation Fees.....	160 00
“ Contributions (semi-annual).....	1597 50
“ Life Memberships.....	700 00
“ Popular Lectures.....	132 50
“ Sales of Proceedings, Journals, etc.....	466 60
“ Interest on Investments.....	3998 24
“ State tax on Mortgages.....	209 10
“ Rentals from Real Estate.....	1485 27
“ Wilson Fund, towards Salary of Librarian.....	300 00
“ Sale of duplicate Books.....	11 65
“ Interest on Money awaiting Investment.....	638 44
“ Miscellaneous .....	1 40
“ Donation, Conchological Section.....	9 45
“ Donation, Biological and Microscopical Section.....	50 00
	<hr/> \$11362 81

## CR.

By Salaries, Janitor, etc.....	3668 32
“ Insurances .....	55 00
“ Coal .....	295 75
“ Life Memberships transferred to Investment account.....	700 00
“ Printing and Binding Proceedings, etc.....	1155 95
“ Taxes and Water Rents .....	347 46
“ Printing and Stationery.....	81 90
“ Plates and Engravings.....	367 10
“ Postage .....	18 50
“ Gas.....	128 12
“ State Tax on Mortgage Investments.....	209 10
“ Miscellaneous.....	382 77
“ Cards, Trays and Boxes.....	115 04
“ Glass and Glassware.....	210 15
“ Lecture Fees paid to Professors.....	182 50
“ Specimens .....	7 00
“ Expenses Publication Committee.....	200 00
“ Cases and drawers .....	85 20
“ Repairs and Expense to Real Estate.....	1502 69
“ Books .....	314 16
“ Mounting Specimens .....	12 00
“ Alcohol.....	46 50
“ Binding.....	210 80
“ Expenses, Curators.....	300 00
	<hr/> 10596 01
Balance.....	\$766 80



## I. V. WILLIAMSON LIBRARY FUND.

Balance overdrawn last statement.....	1233 03
Books .....	841 54
Collection.....	79 96
Taxes and Water Rents.....	196 57
Repairs to Houses.....	318 29
Miscellaneous.....	18 00
	<hr/>
	\$2687 39
Rents collected.....	956 20
Ground Rents collected.....	653 10
	<hr/>
	1609 30
	<hr/>
Balance overdrawn.....	\$1078 09

## THOMAS B. WILSON LIBRARY FUND.

Income from Investments.....	525 00
Balance overdrawn last statement.....	63 85
Books.....	140 17
Transferred to General Account toward Salary of Librarian...	300 00
	<hr/>
	504 02
	<hr/>
Balance due Academy.....	20 98

## JESSUP FUND (For assistance of Students).

Balance last statement.....	368 01
Interest on Investment.....	560 00
	<hr/>
	928 01
Disbursements .....	750 00
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Balance due Academy.....	178 01

## WILLIAM S. VAUX FUND.

Balance last statement.....	619 29
Interest on Investment.....	700 00
	<hr/>
	1319 29
Cash paid for Minerals.....	250 00
Cash paid for cases for Collections.....	500 00
	<hr/>
	750 00
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Balance due Academy.....	569 29

## INVESTMENT ACCOUNT.

Balance at last statement.....	6624 95
Cash received from W. C. Smith legacy of Jno. L. Mill dec'd	3400 00
“ received from J. Clarence White Extinguishment of two	
Ground Rents.....	3150 00
“ received from Richard Boswell Extinguishments of	
Ground Rents.....	3937 00
“ transferred from General Account of Life Memberships	700 00
	<hr/>
	17811 95

Cash received from State of Pennsylvania on account of appropriation to the new Building of the Academy.....	6250 00
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The election of Officers, Councillors and Members of the Finance Committee, to serve during the year 1890, was held, with the following result:—

<i>President,</i>	. . .	Joseph Leidy, M. D.
<i>Vice-Presidents,</i>	. . .	Thomas Meehan, Rev. Henry C. McCook, D. D.
<i>Recording Secretary,</i>	. . .	Edward J. Nolan, M. D.
<i>Corresponding Secretary,</i>	. . .	George H. Horn, M. D.
<i>Treasurer,</i>	. . .	William C. Henszey,
<i>Librarian,</i>	. . .	Edward J. Nolan, M. D.
<i>Curators,</i>	. . .	Joseph Leidy, M. D. Jacob Binder, W. S. W. Ruschenberger, M. D. Angelo Heilprin,
<i>Councillors to serve three</i>		Uselma C. Smith,
<i>years,</i>	. . .	Aubrey H. Smith, Geo. A. Koenig, Ph. D. Geo. A. Rex, M. D.
<i>Finance Committee,</i>	. . .	Isaac C. Martindale, Aubrey H. Smith, Wm. W. Jefferis, Joseph Willcox, Charles Morris.

## ELECTIONS DURING 1889.

### MEMBERS.

*January 29.*—W. Xavier Sudduth, M. D., Edward Bancroft, Henry Phillips Coleman, W. Moylan Lansdale.

*February 26.*—Edwin J. Houston.

*March 26.*—Louis Schneider.

*April 30.*—W. B. Van Lennep, M. D., Charles E. Ridenour.

*May 28.*—Miss Emma Walter, Henry Bentley, Henry C. Johnson, William M. Meigs.

*June 25.*—William Gerlach, A. Sydney Biddle.

*September 24.*—Thomas Stewardson.

*October 29.*—Theo. H. Conderman.

*November 26.*—C. D. Lippincott, Minford Levis, M. D., Samuel Stryker Kneass, M. D., James F. Sullivan, Mrs. Elizabeth S. Bladen, Thomas M. Lightfoot.

## CORRESPONDENTS.

*January* 29.—José N. Roverosa, San Juan Bautista, Mexico; Sir John Lubbock, London.

*April* 30.—Max Fürbringer, Jena.

*May* 28.—Geo. H. French, Carbondale, Ill.

*November* 26.—N. M. Romanoff (Grand Duke Nicholas of Russia).

## ADDITIONS TO THE MUSEUM.

1889.

## MAMMALIA.

- H. C. Chapman. Prepared lungs of the Manatee. Bat (unidentified) from Nassau, W. I.  
 Zoological Society of Philadelphia. *Herpestes Ichneumon*, Egypt; hybrid between *Macacus cynomolgus* and *Cercocebus fuliginosus*; *Macacus inuus*, Rock of Gibraltar; *Galictis vittata*, Africa; skeleton of *Cercocebus fuliginosus*; *Phascolomys latifrons*; *Felis concolor*; *Felis pardus*; *Gulo luscus*; *Ovis tragelaphus*; *Bos gruniens* (skeletons); *Midas ursulus*; *Cercopithecus Campbelli*; *Didelphys Virginianus*; *Canis procyonides*.  
 Benjamin Sharp. Two specimens of red howling monkey (obtained in the island of Trinidad).

## BIRDS.

- H. C. Chapman. Skull of the Flamingo.  
 M. M. Tray. One hundred and thirty eggs, principally of North American birds; twenty-eight skins, collected in vicinity of Philadelphia.  
 Zoological Society of Philadelphia. *Chrysotis autumnalis*; *Aramides Cayennensis* and *Brotogenys tori*; *Phasianus versicolor*, Japan; *Cariama cristata* (skeleton).

## REPTILES and AMPHIBIANS.

- Zoological Society of Philadelphia. *Varanus Bengalensis*, India; *Trachysaurus rugosus*, Australia; *Cyclura nubila*, Isle of Pines, West Indies; *Iguana tuberculata*, Tropical America; *Eumeces murinus*, South America; *Tubimambis teguixin*; *Iguana tuberculata*.  
 H. C. Chapman. A collection of snakes and lizards from West India Islands (*Dromicus*, *Bothrops lanceolatus*, *Thecadactylus*, *Mavonia*, and *Anolis*).  
 A. F. Gentry. *Chrysemys picta*.  
 F. C. Baker. *Phrynosoma coronata* found by E. H. Baker in Cat Swamp, Providence, R. I.  
 A. B. Macklay. *Chelydra serpentina*, Hatborough, Pa.

## FISHES.

- H. R. Heyl. *Cyprinus carpio*, Delaware River.  
 Witmer Stone. Skeletal parts of the Cod.  
 W. N. Lockington. Collection of fishes from the West Coast of North America.  
 H. C. Chapman. Sixteen species, Mt. Desert, Me.

## RECENT INVERTEBRATA (excluding Mollusca).

- H. C. Chapman. *Thelyphonus giganteus*, California; a collection of Invertebrates from Mt. Desert, Me.; Centipedes from Nassau, W. I.  
 J. Ford. *Eupagurus pollicaris*, Atlantic City, N. J.; *Echinarachnius excentricus* Monterey, Cal.  
 U. C. Smith. *Asterias arenicola*, Atlantic City, N. J.  
 H. A. Pilsbry. *Asterias arenicola*, Atlantic City, N. J.; Two species of Crustacea from Atlantic City, N. J.

- W. N. Lockington. An extensive collection of Invertebrata from the West Coast of America.
- Witmer Stone. Seven species of Crustacea from the New Jersey Coast.
- F. Beamer. *Asterias arenicola*, Atlantic City, N. J.
- J. Leidy. *Gonyleptes curvipes*, Aymas, Peru; *Solpuga Cuba*, Florida.
- J. Walton. *Arbacia punctulata*, Atlantic City, N. J.
- J. E. Ives. *Cirolana concharum*, Atlantic City, N. J.
- Benj. Sharp. *Ophiura cinerea*, Guadeloupe, West Indies.
- E. Goldsmith. *Gordius*, Philadelphia.
- W. J. Fox. *Lepas fascicularis*, Atlantic City, N. J.
- Geo. H. Horn. Three specimens of *Microciona prolifera*, Great Egg Harbor, N. J.
- J. Willcox. *Meyenia fluviatilis*, Everglades, Fla.
- Acad. Nat. Sciences. Collection Invertebrata made in the Bermudas in 1888 by A. Heilprin and others.

## MOLLUSCA.

- F. C. Baker. Twelve sections marine shells; 9 species land, 7 marine shells; *Ocenebra jenkinsii* Baker, type.
- W. G. Binney. Three species California Land Shells; one *Physa*, Manitoba.
- J. H. Campbell. Three species land shells from South America.
- Alfred Caruana. One species *Pupa*, Malta.
- H. C. Chapman. Twenty species marine shells, Mt. Desert.
- T. D. A. Cockerell. Twenty-five species Colorado land Mollusks.
- Conchological Sect. (By exch.), twenty-five species European land shells.
- W. H. Dall. *Helix caca* from Florida.
- A. Dean. *Terebra aciculina*, Singapore.
- John Ford. *Helix parietidentata* Muller Ecuador; *Helix straetori* Pilsbry, Cayman, Id.; two species marine, one sp. land shells; *Cyclonassa neritea* L.
- W. D. Hartman. Three species *Melania* and *Neritina*—type of *M. Schmackri*—N. Hebrides; eight species from New Caledonia, New Hebrides, etc.
- Angelo Heilprin. Five species marine shells, Nantucket.
- Acad. Nat. Sciences. One hundred twenty-five trays Bermuda Mollusks, collected by A. Heilprin and others in 1888.
- Henry Hemphill. (Purchased by Conch. Sect.) 300 species of land and Marine Mollusks from Lower California.
- Robt. Jetschin. (In exch., through Conch. Sect.), thirty-two trays European land and fresh-water shells.
- C. W. Johnson. Four species Florida Marine shells.
- Joseph Leidy. Two species land shells, Salt Lake, Utah.
- W. N. Lockington. Forty species West Coast Mollusks.
- H. A. Pilsbry. *Fulgur canaliculatus*, with ciliate cuticle; twenty-one trays *Strophia*, West Indies; *Trivia pediculus* var. Fla.; six species American shells (types).
- H. Rolle. *Helix serpentina*, Corsica, and *Cylindrella Eugenia*, Haiti.
- E. W. Roper. Eighteen species marine and land shells from western United States.
- F. A. Sampson. *Gonibasis cubicoideis*, etc., Mo.
- W. S. Teator. *Succinea* and *Anodonta*, Duchess Co., N. Y.
- C. T. Simpson. Two species *Succinea* and *Anodonta*, Florida.
- J. A. Singley. Fifty-six trays land and fresh-water shells from Texas, thirty-three trays Texas land shells, thirteen species Texas shells.
- U. C. Smith. *Venus mercenaria* from Holly Beach, N. J.; *Tellina Balthica*; *Macra lateralis*; *Urosalpinx cinerea*; *Eupleura caudata*; *Scalaria Humphreysii*; *S. lineata*; *Anachis avara*; *Gemma Manhattanensis*, etc.. New Jersey coast.
- V. Sterki. *Pupa Holzingeri*; *P. rupicola*; *Zonites Sterkii*.
- L'abbé Vathelet. Sixty-three species shells from Tonkin, etc.
- F. H. White. Two forms of *Selenites Vancouverensis* Lea from Astoria, Oregon.
- Jos. Willcox. *Turbo stamineus* and *Unio juscatus*; four species Florida shells.

## FOSSIL INVERTEBRATA.

- R. H. Wyeth. Fossiliferous rock-fragment, Big Horn, Wyoming.  
 J. Singley. *Estheria Morsei*, Texas; forty-seven species of Eocene fossils from Texas.  
 J. Ford. Two species from the Post-Pliocene of California.  
 L. Woolman. Rock with *Trochosmia Atlantica*, cretaceous of New Jersey; Fossils from Lower Silurian of Montgomery Co., Pa.  
 Conchological Section of the Academy. Collection of Post-Pliocene fossils from California, collected by H. Hemphill.  
 H. M. DuBois. Fossils from Trenton limestone, Dutchess Co., N. Y.  
 E. T. Dumble, State Geologist of Texas. Series of fossiliferous rocks from the Eocene of Texas.  
 Miss E. Lyndall. *Orthoceras* (*Gyroceras*?) from Lower Silurian of Montgomery Co., Pa.  
 W. W. Jefferis. Crinoid stem and calyx, from near Glens Falls, N. Y.  
 H. Hemphill. Collection of Post-Pliocene fossils from Lower California.

## FOSSIL PLANTS.

- C. H. Sternberg. Thirty-eight trays of Cretaceous plants from Kansas.  
 R. H. Wyeth. Fossil plant impressions; Leaf Spring, Montana.  
 C. Van Schiver. *Stigmara*, Coal Measures, Pa.  
 H. M. DuBois. *Lepidodendron aculeatum*, Locust Gap, Pa.

## MINERALS, ROCKS, ETC.

- W. W. Jefferis. Phlogopite, Rossie, N. Y.; Sphalerite with quartz, Cumberland, England; Rose Calcite, Mineral Point, Wis.; Quartz, Zamone, Italy; Zincite, Joplin, Mo.; Deweyite, Christiana, Del.; Elæolite and Sodalite, Salem, Mass.; Apophyllite, Keweenaw Co., Mich.; Quartz Crystals, Arkansas; Lepidolite, Paris, Me.; Quartz on Hematite, Cumberland, England; Sphalerite, Granby, Mo.; Calamine, Altenburg, Saxony; Cymatolite, Redding, Conn.; Chalcedony, Lancaster Co., Pa.; Orthoclase, Russell, N. Y.; Magnetite, Essex Co., N. Y.; Beryl, Hebron, Me.; Rhoeizite, near Baltimore; Pebbles, Nantucket Beach, Mass.; Glaciated rock from near Glen Falls, N. Y.; Ancient Hudson River gravel and sand from near Ft. Edward, N. Y.; Vanadinite, Yuma Co., Arizona; Prehnite, Sommerville, Mass.; Magnetite, Port Henry, N. Y.  
 Miss A. M. Fielde. Specimen of Rock from Borneo.  
 H. M. DuBois. Hydromica schist, impregnated with Graphite, Gulf Mills, Pa.  
 P. S. P. Conner. Galenite (England?); Quartz Crystals; Serpentine, New Texas, Lancaster Co., Texas; Stalactitic Pyrite; Magnetite in Vesuvian larva; Blende; Pyromorphite and Coquina.  
 Miss Frances Lea. Forty-four trays of rocks and quartz crystals from the collection of the late Dr. Isaac Lea.  
 Mr. Deshong. Large crystal of Orthoclase, Deshong's Quarry, Leiperville, Pa.  
 Theo. D. Rand. Chalcopyrite, Leiperville Quarries, Pa.; Quartz pseudomorph after Asbestos, Maple, Delaware Co., Pa.

## PLANTS.

- José N. Roverosa. Three hundred species of plants from the province of Tabasco, Mexico.  
 U. S. Department of Agriculture (through Dr. Geo. Vasey). One hundred and sixteen species of plants collected by Dr. E. Palmer at San Quentin Bay, Lower California, in Jan. 1889; fourteen species N. American and Mexican Grasses.  
 Wm. M. Canby. Forty-nine species plants from Southern Europe and Sardinia.

- Thos. C. Porter. Twenty species plants from Pennsylvania and New Jersey.
- Thos. Meehan. One hundred and twenty species plants from various parts of the world, mostly cultivated.
- J. Bernard Brinton. *Cryptomeria Japonica*, Cult., native of Japan; *Taxus baccata* var. *Canadensis* Cult.
- Jos. T. Rothrock. *Bartsia Odontites*, naturalized at Squirrel I., coast of Maine.
- Geo. W. Holstein. Nine species of plants from western Texas.
- J. Thistleton Dyer, of Kew Herbarium (through Dr. Sereno Watson); Drummond's Mosses of the Rocky Mountains, mounted in two volumes, embracing two hundred and forty-nine species and thirty-three varieties.
- John H. Redfield. Two hundred and forty-four species of plants, collected by C. G. Pringle in 1888, in the provinces of Nuevo Leon, Jalisco, Guadalajara, Coahuila and Zacatecas, Mexico; sixty-five species of plants, mostly from coasts of Maine and Massachusetts; Underwood and Cooke's N. American Hepaticæ, forty species.
- Ellis and Everhart. Twenty-second and twenty-third Centuries of N. American Fungi; also a special selected Century of the same, received in exchange for duplicate Centuries received from the Estate of Dr. Geo. Martin.
- Chas. E. Smith. *Leucothoe recurva* from Hot Springs, N. Carolina.
- T. F. Cauffman. One hundred and fourteen species Ferns from the Hawaiian Islands.
- Witmer Stone. Ten species Pennsylvania plants.
- Mrs. Flora E. Haines. *Pinus Banksiana*, from E. branch of Penobscot R., Northern Maine.
- N. L. Britton. Fifty species plants, American and Asiatic.
- John Donnell Smith. Three hundred and seventy-three species plants collected in Guatemala by H. Von Türckheim.
- F. L. Scribner. Fifteen species plants, from vicinity of Knoxville, Tenn.
- California Acad. of Natural Sciences. Forty species California plants.
- W. W. Jefferis. *Celastrus scandens* in fruit.
- Joseph Walton. *Monstera deliciosa*, cultivated; native of Mexico.
- Isaac Burk. Fourteen species plants from ballast grounds and from New Jersey.
- Elliston P. Morris. Wood of the Gru-Gru Palm (*Martinezia corallina*.)

## ADDITIONS TO THE LIBRARY.

1889.

- Abbott, Chas. C. Days out of doors. 8vo. New York, 1889. The Author.
- Albert, Prince de Monaco. Sur l'alimentation des naufragés en pleine mer. Dec. 17, 1888. 8vo T. The Author.
- Sur la troisième (et quatrième) campagne scientifique de l'Hirondelle. Oct. 24, 1887, Nov. 26, 1888. 8vo T. The Author.
- Allen, Harrison. The anatomy of the nasal chambers. 8vo T. Philadelphia, 1889. The Author.
- American Ornithologist's Union. Check list of North American birds according to the canons of nomenclature of the American Ornithologists' Union. 8vo. Washington, 1889. Supplement to the same. 8vo T. The Union.
- Apstein, Carl. Bau und Functions der Spinnndrüsen der Araneida. Inaug. Dissert., Universität Kiel. 8vo T. 1889. The University.
- Arago, J. Promenade autour du monde. Vol. I, II. 8vo. Paris, 1822. Miss Frances Lea.
- Aristotelis. Per des Eras. Roterodamen. Folio, 1539. Miss Frances Lea.
- Audouin, V. Observations pour servir a l'histoire de la formation des perles. 4to T. Paris, 1828. Miss Frances Lea.
- Australian Museum, Sydney. Memoirs No. 2. The Director.
- Bacher, Frank. Ueber Methyl und Dimethyl-derivate des Pyridins. Inaug. Dissert., Universität Kiel. 8vo. T. 1889. University.
- Baker, F. C. Notes on the food of birds. 8vo T. Philadelphia, 1889. The Author.
- Remarks upon the round tailed muskrat, Neofiber Alleni True. 8vo. T. Philadelphia, 1889. The Author.
- Bailey, Charles. Memoir of Prof. Williamson. 8vo. Salford, 1888. The Author.
- Baillon, M. H. Dictionnaire de botanique. 21—24me. Fasc. I. V. Williamson Fund.
- Baines, J. A. Imperial census of 1881. Operations and results in the Presidency of Bombay, including Sind. Vol. I text, II tables. 4to. Bombay, 1882. East Indian Government.
- Barrington, Hon. D. The possibility of approaching the north pole asserted. 8vo. New York, 1818. Miss Frances Lea.
- Basterot, M. De. Mémoire géologique sur les environs de Bordeaux. 1st Partie. 4to. Paris, 1825. Miss Frances Lea.
- Bastian, A. Die Culturländer des alten America. III, 2. I. V. Williamson Fund.
- Baudelot, M. Anatomie comparée. 8vo T. Strasburg, 1868. Miss Frances Lea.
- Bauernfeind, Carl Max von. Das bayerische Präcisions-Nivellement. Siebente Mittheilung. 4to. München, 1888. Royal Bavarian Academy.
- Becker, Geo F. Geometrical form of volcanic cones and the elastic limit of lava. 8vo T. 1885. Angelo Heilprin.
- Impact, friction and faulting. 8vo T. 1885. Angelo Heilprin.
- Bellardi, Luigi. I molluschi dei terreni terziarii del Piemonte e della Liguria. Part 5. I. V. Williamson Fund.
- Benedikt, Dr. Moriz. Manuel technique et pratique d'anthropometre cranio-cephalique. 8vo T. Paris, 1889. I. V. Williamson Fund.
- Benson, Lawrence Sluter. Mathematics in a nut-shell. 8vo. New York, 1889. The Author.



- Berg, Carolo. *Quadraginta coleoptera Nova Argentina*. 8vo T. Buenos Aires, 1889. The Author.
- Berghaus, H. *Physikalischer Atlas*. L. 17—19. I. V. Williamson Fund.
- Berlese, Aug. Napoleone. *Fungi Moricollæ*, F. 5—9. I. V. Williamson Fund.
- Bernet, Henri. *Catalogue des Hépatiques du Sud-Ouest de la Suisse et de la Haute Savoie*. 8vo. Basel, 1888. I. V. Williamson Fund.
- Bessey, Charles E. *Botany for high schools and colleges*. 8vo. New York, 1888. Purchased.
- Beverley, H. *Report on the census of the town of Calcutta, taken on 17th of Feb., 1881*. 4to. Calcutta, 1881. East Indian Government.
- Bhagram, Pandit. *Report on the census of the province of Ajmere-Merwara, taken on 17th of Feb., 1881*. 4to. Ajmere, 1882. East Indian Government.
- Bhatavadéker, Gajanan Kriskna. *Report on the census of the Baroda territories, 1881*. 4to. Bombay, 1883. East Indian Government.
- Blanchard, Emile. *La vie des êtres animés . . . Les conditions de la vie chez les êtres animés, l'origine des êtres*. 12mo. Paris. I. V. Williamson Fund.
- Blanford, W. F. *The fauna of British India*. Part I. I. V. Williamson Fund.
- Blytt, A. *On variations of climate in the course of time*. 8vo T. Christiana, 1886.
- The probable cause of the displacement of beach-lines. An attempt to compute geological epochs. 8vo T. Christiana, 1889.
- Additional note to the probable cause of the displacement of beach-lines. The Author.
- Second additional note to same. The Author.
- Boissier, Edmond. *Flora Orientalis. Supplementum* (R. Buser.) I. V. Williamson Fund.
- Boitard, M. *Manuel d'histoire naturelle comprenant les trois règnes de la nature*. 8vo. Part 2. Paris, 1827. Miss Frances Lea.
- Borchert, H. *Anatomisch-physiologische Untersuchungen der Haftscheibe von Cyclopterus lumpus L.* Inaug. Dissert., Universität, Kiel. 8vo T. 1889. The University.
- Borne, Max von dem. *Tod den Fischfeinden*. 8vo. Berlin. The Author.
- Borre, A. *Preudhomme de. Conseils pour l'étude des Palpicornes aquatiques*. 8vo T. Bruxelles, 1889.
- Liste des Passalides recueillis en 1872 par feu Camille Van Volxem pendant son voyage au Brésil. 8vo T. Bruxelles, 1888.
- Materiaux pour la faune entomologique du Hainant. Coleoptères. Quatrième centurie. 8vo T. Bruxelles, 1889.
- Répertoire alphabétique des noms spécifiques admis ou proposés dans la sous famille des Libellulines. 8vo T. Bruxelles, 1889.
- Sur le *Bembidium biguttatum* Fab., et les voisines. Bruxelles, 1888. The Author.
- Boulenger, Geo. A. *Catalogue of the chelonians, rhynchocephalians and crocodiles in the British Museum*. 8vo. London, 1889. Trustees of British Museum.
- Bourdillon, J. A. *Report on the census of Bengal, 1881*. Vol. I—II. 4to. Calcutta, 1883. East Indian Government.
- Boveri, Theodor. *Zellen Studien*. Hefte 1, 2. I. V. Williamson Fund.
- Boyle, Robert. *The works of the Honorable Robert Boyle*. In six volumes. To which is prefixed the life of the author. Vols. 1, 2, 4, 5, 6. London, 1772. Wm. John Potts.
- Bradbury, John. *Travels in the interior of America, in the years 1809, 1810 and 1811*. 8vo. Liverpool, 1817. Thomas Meehan.
- Brady, Henry B. *A synopsis of the British recent foraminifera*. 8vo T. London, 1887.
- Note on *Keramosphaera*, a new type of porcelaneous foraminifera. 8vo T. 1882.
- Note on *Syringagammina*, a new type of arenaceous rhizopods. 8mo T. 1883. Angelo Heilprin.

- Branner, J. C. Geological survey of Arkansas. Annual report for 1888.  
Vol. I—III. The Author.
- Barvard, A. Recherches sur les ossements fossiles. 8vo T. 1826.  
Miss Frances Lea.
- Brefeld, O. Untersuchungen aus dem Gesamtgebiete der Mykologie. VII. H.  
Basidiomyceten. II, III. I. V. Williamson Fund.
- Brinton, Daniel G. Aims and traits of a world language. 8vo T. New York,  
1889.
- The ethnologic affinities of the ancient Etruscans. 8vo T. Philadelphia,  
1889. The Author.
- Brongniart, A. et Elie de Beaumont. Observations sur le phénomène diluvien  
dans le nord de l'Europe. 8vo T. Paris. Miss Frances Lea.
- Bronn's Klassen und Ordnungen des Thier-Reichs. IV, Bd., 7, 8, L.; V Bd.,  
2 Abth., 20—22; VI Bd., 3 Abth., 61—64, 4 Abth., 22—27.  
Wilson Fund.
- Brown, Nathan C. A catalogue of the birds known to occur in the vicinity of  
Portland, Me. 8vo. Portland, 1882. The Author.
- Bürl, Carl Bernhard. Zootomie aller Thierklassen. Atlas L. 40. 4to. Wien.  
I. V. Williamson Fund.
- Bucquoy, E., Ph. Dantzenberg and G. Dollfus. Les mollusques marins du Rous-  
sillon. Fasc. 15, 16. I. V. Williamson Fund.
- Buena, Eustaquio. Constitucion de la atmosfera o leyes que rigen la desidad,  
peso, altitud y temperatura del aire. 8vo. Mexico, 1889.  
Mexican Geographical Society.
- Burdon-Sanderson, J. Translations of foreign biological memoirs. I. Memoirs  
on the physiology of nerve, of muscle and of the electrical organ. 8vo.  
Oxford, 1887. I. V. Williamson Fund.
- Burmeister, Hermann. Reise durch die La Plata-Staaten, 1857—1860. 2 vols.  
8vo. Halle, 1861. I. V. Williamson Fund.
- California State Mining Bureau. Annual Report No. 8. State Mineralogist.
- Call, R. Ellsworth. Description of two new species of the genus *Unio* from the  
Ozark region of Missouri.
- On the gross anatomy of *Campeloma*. June, 1888. The Author.
- Campbell, Archibald and W. J. Twining. Department of State. Reports upon  
the survey of the boundary between the territory of the United States and  
the possessions of Great Britain from the Lake of the Woods to the summit  
of the Rocky Mountains. March 3, 1877. 4to. Washington, 1878 with  
Atlas, folio. Department of State.
- Canada. Geological and Natural History Survey of Canada. Catalogue of Cana-  
dian Plants. Part I. Purchased.
- Contributions to Canadian Paleontology. I, 2. Geological Survey of Canada.
- Carson, Hampton L. History of the celebration of the one hundredth anniver-  
sary of the promulgation of the constitution of the United States. 4to. 2  
Vols. Philadelphia, 1889. The Committee of Arrangements.
- Caruel, Teodoro. Flora Italiana. VIII. Part 2. The Author.
- Census of the native States of Rajputna, 1881. 4to. Bombay, 1882.  
East Indian Government.
- Century Dictionary, an encyclopedic lexicon of the English language. Pt. 1—7.  
I. V. Williamson Fund.
- Chaper, M. & P. Fischer. De l'adoption d'une langue scientifique internationale.  
Rapport présenté à la Société zoologique de France le 12 Juin, 1888.  
Paris, 1888. The Authors.
- Clessin, S. Die Genera der recenten süswasser Bivalven. 8vo T.  
Die Gruppe *Fruticola* Hela des Genus *Helix*, L. 8vo T. Miss Frances Lea.
- Die Mollusken-Fauna Oesterreich-Ungarns und der Schweiz, L. 4.  
I. V. Williamson Fund.

- Cohn, F. Kryptogamen-Flora von Schlesien. 3er Bd., 5e L.  
I. V. Williamson Fund.
- Cope, Edw. D. On the relations of the hyoid and otic elements of the skeleton in the batrachia. Nov. 2, 1888.  
On the mammalia obtained by the Naturalist Exploring Expedition to Southern Brazil. 8vo T. May, 1889.  
The Proboscidea. 8vo T. August, 1889.  
A review of the North American species of Hippotherium. 8vo T. Philadelphia, 1889.  
The Author.
- Cordier, M. Essai sur la temperature de l'intérieur de la terre. 8vo T. Paris, 1827.  
Miss Frances Lea.
- Cornalia, E. & P. Panceri. Osservazione zoologico-anatomiche sopra un nuovo genere di crostacei isopodi sedentarii. 8vo T. Turin, 1858.  
Miss Frances Lea.
- Cotes, E. C. & C. Swinhoe. A catalogue of the moths of India. Parts IV, VII.  
East Indian Government.
- Coulter, John M. & J. N. Rose. Revision of the North American Umbelliferae. Herbarium of Wabash College, Crawfordsville, Ind. The Author.
- Coutinho, Antonio Xavier Pereira. Curso de silvicultura. T. I, Botanico florestal; T. II, Esboco de uma flora lenhosa Portugueza. 8vo. Lisboa, 1886-87.  
Academy of Sciences of Lisbon.
- Crosby, W. O. Geology of the Black Hills of Dakota. 8vo T. Salem, 1886.  
Angelo Heilprin.
- Curtis, Wm. Eleroy. Trade and transportation between the United States and Spanish America. 8vo T. Washington, 1889.  
Department of State.
- Cutter, Ephraim & J. A. Food versus bacilli in consumption. The Author.
- Cuvier et Duméril. Extrait du rapport sur le mémoire présenté par M. M. Audouin et Milne Edwards. 8vo T. Paris, 1828.  
Rapport sur un mémoire de M. M. Audouin et Milne Edwards ayant pour titre: de la respiration aérienne des crustacés, et des modification que présente l'appareil branchial chez les crabes terrestres. 8vo T. Paris, 1828.  
Miss Frances Lea.
- Dames, W. & E. Kayser. Palaeontologische Abhandlungen. IV, 3-5.  
I. V. Williamson Fund.
- Dana, James D. On the volcanoes and volcanic phenomena of the Hawaiian Islands. 8vo. New Haven, 1889.  
The Author.
- Danmar, William. The tail of the earth; or the location and condition of the "spirit world". 12mo. Brooklyn, 1887.  
The Author.
- Darwin, Chas. The structure and distribution of coral reefs. 8vo. New York, 1889.  
Prof. A. Heilprin.
- Dawson, Geo. M. Notes on the Indian tribes of the Yukon District and adjacent northern portion of British Columbia. 12mo. 1887.  
The Author.
- Dawson, Sir J. William. On cretaceous plants from Port McNeill, Vancouver Is. May 25, 1888.  
On the eozoic and palæozoic rocks of the Atlantic coast of Canada, in comparison with those of western Europe and of the interior of America. Nov., 1888.  
Note on Balanus Harneri in the pleistocene at Riviere Beaudette and on the occurrence of peculiar varieties of Mya arenaria and M. truncata in the modern sea and in the pleistocene. Jan., 1889.  
The Author.
- DeCandolle, A. & C. Monographiæ phanerogamarum prodromi. VI.  
I. V. Williamson Fund.
- Deés, Eugenius Daday de. Crustacea cladocera faunæ Hungaricæ. Budapest, 1888.  
Royal Hungarian Society of Sciences.
- Deleuze, M. History and description of the Royal Museum of Natural History. 8vo. Part II. Paris, 1823.
- Desor, E. De l'orographie des Alpes dans ses rapports avec la géologie. 8vo T. Neuchatel, 1862.  
Miss Frances Lea.

- Dickerson, Edward N. Joseph Henry and the magnetic telegraph. New York, 1885. The Author.
- Dictionnaire des sciences anthropologiques. 4to. Paris. Purchased.
- Dippel, Dr. Leupold. Handbuch der Laubholzkunde. T. I. 8vo. Berlin. I. V. Williamson Fund.
- Dobson, G. E. On the comparative variability of bones and muscles. 8vo T. London, 1884.
- On the mythology and visceral anatomy of *Capromys melanurus*, with a description of the species. 8vo T. London, 1884.
- On the unimportance of the presence or absence of the hallux as a generic character in mammals. 8vo T. London, 1884.
- Report on accessions to our knowledge of the Chiroptera during the past two years. 8vo T. London, 1888. Angelo Heilprin.
- Dollfuss, Gustave. Bryozoaires. 8vo T. Paris, 1887.
- Groupe quarternaire. 8vo T. Paris, 1888.
- Une coquille remarquable des Faluns de l'Anjou, *Melongena cornuta* Agassiz. Sp. (Pyrula). 8vo. Angers, 1888. The Author.
- Dollfuss, G. & Ph. Dautzenberg. Descriptions de coquilles nouvelles des Faluns de la Touraine. 8vo T. 1886. Angelo Heilprin.
- Drapiez, M. Mineralogie usuelle, ou exposition succincte et methodique des mineraux. 8vo. Paris, 1826. Miss Frances Lea.
- Drysdale, F. Census of the Central Provinces, 1881. Vol. I, II. 4to. Bombay, 1882. East Indian Government.
- DuChailu, Paul B. The Viking Age, the early history, manners and customs of the ancestors of the English-speaking nations. 8vo. 2 Vols. New York, 1889. Purchased.
- Dufrénoy, M. Mémoire sur les terrains tertiaires du bassin du midi de la France. 8vo T. 1834. Miss Frances Lea.
- Dumble, E. F. Texas geological and mineralogical survey. First report of progress, 1888. 8vo T. Austin, 1889. The Author.
- Dunker, G. De Septiferis genere Mytilaceorum et de Dreisseniiis. 4to T. Marburg, 1845.
- Ueber die im Kasseler Muschelkalk bis jetzt gefundenen Mollusken. 4to. Cassel, 1848. Miss Frances Lea.
- Duval, Mathias. Atlas d'embryologie. 4to. Paris, 1889. I. V. Williamson Fund.
- Dyer, Thiselton & Profs. Newton, Flower, Carruthers, and Slater. Report of the Committee appointed for the purpose of reporting on the present state of our knowledge of the zoology and botany of the West India Island, and taking steps to investigate ascertained deficiencies in the fauna and flora. (Brit. Assoc.) 1888. 8vo T. The Author.
- Eberhart, Noble M. Outlines of economic entomology, designed as a text-book for schools and colleges, and as a reference-book for farmers and gardeners. 8vo. Chicago, 1888. The Author.
- Eckfeldt, John W. Some new North American lichens. 8vo. New York, 1889. The Author.
- Eckstein, Karl. Repétitorium der Zoologie. Ein Leitfaden für Studierende der Natur und Forst-wissenschaft, sowie der Medicin. 8vo. Leipzig, 1889. I. V. Williamson Fund.
- Egypt Exploration Fund. Memoirs I—V. Henry N. Rittenhouse.
- Emery, Titus Salter. Inorganic coal and limestone in an electro-chemical world. 8vo. Philadelphia, 1888. The Author.
- Encyclopædia Britannica. 9th Ed. XXIV and Index. I. V. Williamson Fund.
- Encyklopædie der Naturwissenschaften. 1 e. Abth. 58—61 L.; 2 e. Abth. 51—53; 3 e. Abth. 1, 2. I. V. Williamson Fund.
- Engler, A. und K. Prantl. Die natürlichen Pflanzenfamilien. L. 21—36. I. V. Williamson Fund.

- Esperanto, Dr. An attempt towards an international language. War-saw, Russia.  
Translated by Henry Phillips, Jr. 8vo T. New York, 1889. Angelo Heilprin.
- Etheridge, Robert. Fossils of the British Islands stratigraphically and zoologically arranged. Vol. I. 4to. Oxford, 1888. I. V. Williamson Fund.
- Ewing, Thomas, Address of, at the centennial celebration at Marietta, Ohio, July 15th, 1888, of the settlement of the Northwest Territory. Second Edition. The Author.
- Eyerman, John. On the mineralogy of the French Creek Mines in Pennsylvania. Jan. 14, 1889.  
The mineralogy of Pennsylvania. Part I. 12mo. Easton, Pa., 1889. The Author.
- Fabre, J. H. Souvenirs entomologiques. Études sur l'instinct et les mœurs des insects. Svo. Paris, 1886. Harold Wingate.
- Fantuzzi, Marco G. Osservazioni geognostiche sul coloramento di alcune pietre e sulla formazione di un agata che si trova nel Museo Ginanni di Ravenna. Svo T. Ravenna, 1857. Miss Frances Lea.
- Farlow, W. G. On some new or imperfectly known algæ of the United States. I. The Author.
- Ficalho, Conde de. Flora dos Lusiadas. Svo. Lisboa, 1880. Academy of Sciences of Lisbon.
- Finland. Finlands Geologiska Undersökning, Beskrifning till Kartbladet af. K. Ad. Moberg. Nos. 10, 11, with maps. The Survey.
- Fischer, J. G. Die Gehirnnerven der Saurier. 4to T. Hamburg, 1852. Miss Frances Lea.
- Fischer, P. Observations sur l'Auricula (Alexia) denticulata. Svo T. 1878. A. Heilprin.
- Fitzgerald, Desmond. Evaporation. Svo T. 1886. The Author.
- Fischer, P. & H. Crosse. Mission Scient. au Mex. Rech. zool. 7me. Partie. Études sur les mollusques terrestres et fluviatiles, pp. 129—176, pls. 43—46. The Authors.
- Fletcher, L. The dilatation of crystals on change of temperature. Svo London, 1883. The Author.
- Foord, Arthur H. Catalogue of the fossil cephalopoda in the British Museum. Part I. Svo. London, 1888. Trustees of British Museum.
- Forel, F. A. Faune profonde du Lac Lemman. Svo T. Lausanne, 1874.. Miss Frances Lea.
- Forster, F. Annales d'un physician voyageur. Svo T. Bruges, 1851. Miss Frances Lea.
- Franchet, A. Plantæ Delavayanæ. Livraison I. Svo. Paris. Purchased.
- Frazer, Persifor. An unjust attack. (Reply to articles concerning the American Committee of the International Congress, by Prof. J. D. Dana and Major J. W. Powell, in the American Journal of Science for December, 1888.) Svo T. Archaeæan characters of the rocks of the nucleal ranges of the Antilles. Svo T. 1888. The Author.
- Frederico, Léon. La lutte pour l'existence chez les animaux marins. Svo. Paris, 1889. I. V. Williamson Fund.
- Fritsch, Dr. Karl v. Allgemeine Geologie. Svo. Stuttgart, 1888.
- Fuchs, Theo. Die Salse von Sassuolo und die argille Scagliose. Svo T. Wien, 1877.
- Ueber die Entstehung der Aptychenkalke. Svo T. Wien, 1877. A. Heilprin.
- Gabon Congo. Svo T. Paris, 1889.
- Gassies, J. B. Des progrès de la malacologie en France. Svo T. Bordeaux, 1858. Miss Frances Lea.
- Geinitz, Dr. H. B. Ueber die rothen und bunten Mergel der oberen Dyas bei Manchester. Svo T. Dresden, 1889. The Author.
- Genet, E. C. Memorial on the upward forces of fluids and the applicability to several arts, sciences, etc. Svo T. Albany, 1825. Miss Frances Lea.

- Genth, F. A. Contributions to mineralogy. No. 44. 8vo.  
On two minerals from Delaware Co., Pa. 8vo T. 1889. The Author.
- Germany. Versammlung Deutscher Naturforscher und Aerzte, Bericht. Hamburg, 1830. Miss Frances Lea.
- Girod, Paul and Elie Massénat. Les stations de l'âge du renne dans les vallées de la Vizère et de la Corrèze. Fasc. I. I. V. Williamson Fund.
- Gleichen, A. Beitrag zur Theorie der Brechung von Strahlensystemen. Inaug. Dissert., Universität Kiel. 8vo T. University of Kiel.
- Godman, F. Ducane and O. Bert Salvin. Biologia Centrali Americana. Botany, No. 25. Zoology, Nos. 70—76. I. V. Williamson Fund.
- Goette, Dr. Alex. Abhandlungen zur Entwicklungsgeschichte der Tiere. 8vo. & 4to. Leipzig. II. I—IV. Purchased.
- Goode, G. Browne. The beginning of American science. The third century. 8vo. Washington, 1888. Angelo Heilprin.
- Gopčević, Spiridon. Serbien und die Serben. I Bd. Das Land. 8vo. Leipzig, 1888. I. V. Williamson Fund.
- Gould, John. The birds of New Guinea. Parts XXIV, XXV. Wilson Fund.
- Grandidier, A. Histoire physique, naturelle et politique de Madagascar. XVI, 2e Partie, 19e Fasc. Vol. XXVIII, T. II, Atlas, 1, 2 Partie, 18e Fasc. I. V. Williamson Fund.
- Grateloup, Des Moulins, Michaud, Petit-Lafitte, Legrand, L'Abbe Blatairon, L. Lamothe. Examen de la question relative a la reprise des travaux de recherches des eaux artésiennes de Bordeaux. 8vo T. 1841.
- Greely, Adolphus W. International Polar Expedition. Report on the Proceedings of the United States Expedition to Lady Franklin Bay, Grinnell Land. Vols. I, II. 4to. Washington, 1888. The Author.
- Groth, Paul. Ueber die molekular Beschaffenheit der Krystalle. Festschrift der K. B. Akad. der Wissen . . . 28 März, 1888. The Academy.
- Grüber, Wenzel. Beobachtungen aus der menschlichen und vergleichenden Anatomie. IX. I. V. Williamson Fund.
- Haenlein, F. H. & Chr. Leursen. Bibliotheca Botanica. Abhandlungen aus dem Gesamtgebiete der Botanik. 14 H. I. V. Williamson Fund.
- Haidinger, W. Schluss der Herausgabe der "naturwissenschaftlichen Abhandlungen u. s. w." 4to. Wien, 1852. Miss Frances Lea.
- Halifax. Department of Mines. Report for the year 1888. The Department.
- Hall, Rev. Alfred J. A grammar of the Kwagiat language. 4to. Montreal, 1889. The Author.
- Hamilton, Hugh. The chemical factor in disease. June 5, 1888. The chemical philosophy in remedy. Sept. 6th, 1887. The Author.
- Hansbury, Fred. J. An illustrated monograph of the British Hieracia. 4to. Part I. Thos. Meehan.
- Hartlaub, G. Beiträge zur Ornithologie West Africa's. 4to T. Hamburg, 1850. Miss Frances Lea.
- Hatschek, Berthold. Lehrbuch der Zoologie. 1e und 2e L. I. V. Williamson Fund.
- Hauer, F. R. C. Taylor's Kohlenstatistik. 4to. Wien, 1852. Miss Frances Lea.
- Hay, O. P. Description of a new species of Amblystoma (Amblystoma Copeianum) from Indiana. 8vo T. Washington, 1885.
- Notes on a collection of fish from Florida, with description, of new or little known species. 8vo. T. Washington, 1885.
- On the manner of deposit of the glacial drift. 8vo. T. New Haven, 1887.
- A preliminary catalogue of the amphibia and reptilia of the State of Indiana. 8vo. T. Cincinnati, 1887.
- The amphibians and reptiles of Indiana. 8vo. T. 1889.
- Observations on Amphiuma and its young. 8vo. T. The Author.

- Hébert, M. Observations sur les groupes sédimentaires les plus anciens du nord ouest de la France. 4to T. Paris, 1886.
- Ouverture du congrès. 8vo T. Paris, 1878. A. Heilprin.
- Hector, Sir James. *Phormium tenax* as a fibrous plant. 8vo. 2nd Ed. Wellington, 1889. The Author.
- Heilprin, Angelo. The Bermuda Islands, a contribution to the physical history and zoology of the Somers Archipelago. 8vo. Philadelphia, 1889.
- Contributions to the natural history of the Bermuda Islands. 8vo T. Oct. 30, 1888. The Author.
- Helmholtz, H. von. *Handbuch der physiologischen Optik*. 2e Aufl., 5 L. I. V. Williamson Fund.
- Hensoldt, H. *Methods of modern petrography*. 8vo. The Author.
- Henslow, George. *Int. Sci. Ser. The origin of floral structures through insect and other agencies*. 8vo. New York, 1888. I. V. Williamson Fund.
- Herman, Ottó. *A Magyar Halászat Könyve. A Kir. Magyar Természettudományi Társulat megbízásából írta Herman Otto . . . I, II*. 8vo. Budapest, 1887. Royal Hungarian Society of Sciences.
- Hill, Robert T. *Paleontology of the cretaceous formations of Texas*. Part I. Angelo Heilprin.
- Hinde, G. Jennings. *On Archæocyathus, Billings and on genera allied to or associated with it*. 8vo T. London, 1889. Angelo Heilprin.
- Hinrichson, Walther. *Ueber m—Nylöbenzylamin*. Inaug. Dissert., Universität Kiel. 8vo T. 1889. University of Kiel.
- Hintze, C. *Handbuch der Mineralogie*. L. I. 8vo. Leipzig. Purchased.
- Hoeninghaus, F. W. *Beitrag zur Monographie der Gattung Crania*. 4to. Crefeld, 1828. Miss Frances Lea.
- Holböll, Carl. *Anatomische Untersuchungen über die Clione borealis*. 4to. Kopenhagen, 1838. Miss Frances Lea.
- Honeyman, Rev. D. *Glacial boulders of our fisheries and invertebrates, attached and detached*. 8vo. Halifax, 1889. The Author.
- Hooker, J. D. *The flora of British India*. Part XV. London, 1886. East Indian Government.
- Houstoun, William. *Reliquiae Houstounianæ seu plantarum in America meridionali*. 8vo. Norimbergæ, 1794. Thos. Meehan.
- Huot, Lucien. *Siege of the fort of St. Johns in 1775*. 8vo T. St. Johns, P. Q. 1889. The Author.
- Hyrtl, Josephus. *Cryptobranchus Japonicus. Schediasma anatomicum*. 4to. Vindobonæ, 1865. I. V. Williamson Fund.
- Ibbetson, D. C. J. *Report of the census of the Panjáb taken on the 17th of February, 1888*. Vols. I—III. 4to. Calcutta, 1883. East Indian Government.
- Illinois. *Statistics of coal in Illinois, 1888*. The Bureau.
- India. *Geological survey of*. Records XXI, 4; XXII, 1—3. The Survey.
- Ingersoll, Ernst. *Nests and eggs of American birds*. Part I—V. 4to. H. A. Pilsbry.
- International Sanitary Conference, *Proceedings of the, provided for by joint resolutions of the Senate and House of Representatives in the early part of 1881*. Department of State.
- Jenkins, Oliver P. and Barton W. Evermann. *Description of eighteen new species of fish from the Gulf of California*. 1888. The Authors.
- Johnston, H. H. *The Kilima-Njaro expedition. A record of scientific exploration in eastern equatorial Africa*. 8vo. London, 1886. I. V. Williamson Fund.
- Jourdan, E. *Les sens chez les animaux inférieurs*. 8vo. Paris, 1889. The Author.
- Jukes-Browne, A. J. *The building of the British Isles; a study in geographical evolution*. 12mo. London, 1888. I. V. Williamson Fund.

- Julien, Alexis. A. The microscopical structure of the iron pyrites. 8vo T. New York, 1886.  
 On the variation of decomposition in the iron pyrites; its cause and its relation to density. 8vo T. Parts I, II, New York, 1886.  
 On the geology at Great Barrington, Mass. 8vo T. New York, 1887. Angelo Heilprin.
- Jones, T. Rupert and W. K. Parker. Notice sur les foraminifères vivants et fossil de la Jamaïque. 8vo T. Bruxelles, 1876. Miss Frances Lea.
- Kain, C. Henry & E. A. Schultze. On a fossil marine diatomaceous deposit from Atlantic City. N. J. 8vo T. New York. Angelo Heilprin.
- Kenngott, G. A. Übersicht der Resultate mineralogischer Forschungen in den Jahren 1844—49. 4to. Vienna, 1852. Miss Frances Lea.
- Kentucky, Geological Survey of. Chemical report of the coals, etc. Vol. A. Part III. W. M. Linney, Report on Henry, Shelby and Oldham Counties. Report on geology of Mason Co. The Survey.
- Kinberg, Dr. J. G. H. Foreteckning öfver en dyrbar Samling af väl Konserverade in- och utländska Foglar och Fogelogg. 8vo T. Stockholm, 1889.
- Kirchkoff, Alfred. Unser Wissen von der Erde. Länderkunde des Erdteils Europa. II, 4. I. V. Williamson Fund.
- Kitts, Eustace J. Report of the census of Berar, 1881. 4to. Bombay, 1882. East Indian Government.
- Kokscharow, Mikolai v. Materialien zur Mineralogie Russlands. X, Bg. 1—14. I. V. Williamson Fund.
- Kolombatovic, G. Cephalopodi dibranchiati del circondario marittimo di Spalato. Newspaper slip. The Author.
- Kommission zu wissenschaftlichen Untersuchungen der deutschen Meere in Kiel für die Jahre 1882 bis 1886. 6er Bericht. XVII—XIX. I. V. Williamson Fund.
- Kraus, Dr. G. Die Gewebespannung des Stammes und ihre Folgen. 8vo T. Strasburg, 1868. Miss Frances Lea.
- Kraus, Gregor. Grundlinien zu einer Physiologie des Gerbstoffs. 8vo. Leipzig. 1889. I. V. Williamson Fund.
- Kreidel, W. Untersuchungen über den Verlauf der Flutwellen in den Ozeanen. Inaug. Dissert., Universität Kiel. 8vo T. 1889. University of Kiel.
- Kunz, Geo. F. The meteorites from Glorietta Mountain, Santa Fé Co., New Mexico. 8vo T. New York, 1885.  
 Hollow Quartz from Arizona. 8vo T. 1887. Angelo Heilprin.  
 Meteoric iron from Arkansas, 1888. 8vo. T. Washington.  
 Mineralogical Notes. 8vo. T. 1888.  
 Precious stones, gems and decorative stones in Canada and British America. 8vo. T. Ottawa, 1888.  
 On two new masses of meteoric iron. 8vo. T. 1889.  
 Precious stones. 8vo. T. Washington, 1889. The Author.
- Lang, Arnold. Lehrbuch der vergleichenden Anatomie. 1 Abth. I. V. Williamson Fund.
- Laporte, T. L. Analyse des travaux de la Société Linnéenne de Bordeaux. 8vo T. 1834. Miss Frances Lea.
- Lamborn, Robert H. A circular note to working entomologists. New York, 1889. The Author.
- Lapa, J. I. Ferreira. Technologia rural ou artes chimicas, agricolo-florestaes. 2 vols. 8vo. Lisboa, 1879, 1885. Academy of Sciences of Lisbon.
- Lawes, John B. Memoranda of the origin, plan and results of the field and other experiments conducted on the farm and in the laboratory of Sir John Lawes at Rothamsted, Herts. June, 1889. The Author.
- Lawrence, Geo. N. Additional specimens of Bachman's and Swainson's warblers, obtained by Mr. Charles S. Galbraith in the spring of 1887. 8vo T. July, 1887.  
 Description of a new species of bird of the genus Catharus from Ecuador. 8vo T. 1887.



- Description of a new species of wren from the island of Tobago, West Indies. 8vo T. Oct., 1888.
- An account of the breeding habits of *Puffinus Auduboni* in the Island of Grenada, West Indies, with a note on *Zenaida rubripes*. 8vo T. Jan., 1889.
- A new name for the species of *Sporophila* from Texas, generally known as *S. Moreletii*. Jan., 1889.
- Remarks upon abnormal coloring of plumage observed in several species of birds. 8vo T. Jan., 1889. The Author.
- Leffmann, Henry, and William Beam. Examination of water for sanitary and technical purposes. 12mo. Philadelphia, 1889. Prof. Heilprin.
- Leidy, Joseph. An elementary treatise on human anatomy. Second Ed. 8vo. Philadelphia, 1889. Purchased.
- Lendenfeld, Robert von. Descriptive catalogue of the sponges in the Australian Museum, Sydney. 8vo. London, 1888.
- List of errata in the catalogue of the Australian Scyphomedusæ and Hydro-medusæ. Trustees of the Australian Museum.
- Lepsius, Richard. Handbuch z. deutschen Landes und Volkskunde. Geologie von Deutschland und den angrenzenden Gebieten. I, 2.
- Leuckart, Rud. Bau und Entwicklungsgeschichte der Pentastomen. 4to. Leipzig, 1860. I. V. Williamson Fund.
- Leuckart, Rud. & Carl Chun. Bibliotheca Zoologica. H. 3, 4. I. V. Williamson Fund.
- Leunis Dr. Johannes. Synopsis der drei Naturreiche. Bd. I, 1, 2. I. V. Williamson Fund.
- Lewis, Henry Carvill, sketch of. 8vo T. New York, 1889.
- Lima, Wenceslau de. Flora fossils de Portugal. Monographia do Genero *Dicranophyllum* (Systema Carbonico.) 4to. Lisboa, 1888. Geological Survey of Portugal.
- Linden, J. "Lindenien." Iconographie des Orchidées. IV, 3—12; V, 1, 2. Thos. Meehan.
- Linné, Caroli A. Amoenitates Academicæ. Vols. 7—10. 8vo. Erlangen, 1790. Purchased.
- Locard, Arnould. Revision des espèces françaises appartenant aux genres *Margaritana* et *Unio*. 4to. Paris, 1889. The Author.
- Lohmann, H. Die Unterfamilie der Halacaridæ Murr. Inaug. Dissert., Universität Kiel. 8vo T. 1888. University of Kiel.
- Lommel, E. Joseph von Fraunhofer's gesammelte Schriften. Im Auftrage der math.-physikal. Classe der k. B. Akademie der Wissen. 4to. München, 1880. The Academy.
- Lubbock, Sir John. Inter. Sci. Ser. On the senses, instincts, and intelligence of animals with special reference to insects. 8vo. London, 1889. The Author.
- Lutz, K. G. Das Buch der Schmetterlinge, L. 9, 10. I. V. Williamson Fund.
- Lydekker, Richard. Catalogue of the fossil reptilia and amphibia in the British Museum. Part II. 8vo. London, 1889. The Trustees.
- Lyman, Benj. S. A geological and topographical map of the New Boston and Morea Coal Lands in Schuylkill Co., Penna. Jan. 12, 1889. The Author.
- McCoy, F. Natural history of Victoria. Decade XVI—XVIII. Government of Victoria.
- McGee, W. J. Notes on the geology of Macon Co., Missouri. 8vo T. 1888. Angelo Heilprin.
- McIver, Lewis. Imperial census of 1881. Operations and results in the Presidency of Madras. Vols. I—V. 4to. Madras, 1883. East Indian Government.
- McKendreck, John G. A text book of physiology. 8vo. New York, 1888. Purchased.
- Maelin, Ph. V. Dictionnaire géographique de la Province de Liège. 8vo. Bruxelles, 1831. Miss Frances Lea.

- Magrath, Maj. H. M. S. Report on the Coorg general census of 1881, with appendices. 4to. Bangalore, 1881. East Indian Government.
- Maio, Visconde de Villa. Tratado de vinificacao para vinhos genuinos. Segunda edicao. 8vo. Lisboa, 1883. Academy of Sciences of Lisbon.
- Marcou, Jules. Note sur la géologie de la Californie. 8vo f. Paris, 1883.
- The "Taconic System" and its position in stratigraphic geology. 8vo T. Cambridge, 1885. A. Heilprin.
- Margerie, Emm. de. Les progrès de la géologie. 8vo T. Paris, 1888. A. Heilprin.
- Marsh, O. C. Discovery of cretaceous mammalia. 8vo T. New Haven, 1889. The Author.
- Martens, Wm. Ueber das Verhalten von Vocalen und Dyphthongen in gesprochenen Worten. Inaug. Dissert. Universität Kiel. 8vo. 1889. University of Kiel.
- Martindale, I. C. Marine algæ of the New Jersey Coast and adjacent waters of Staten Island. 8vo T. New York, 1889. The Author.
- Martini und Chemnitz. Systematisches Conchylien-Cabinet, von H. B. Küster. L. 365—371. Wilson Fund.
- Mason, Rev. Francis. Flora Burmanica. 12mo T. 1851. Tavoy. Mr. Stewart Culin.
- Maurer, G. L. von. Rede bei der hundertjährigen Stiftungsfeier der K. Akad. der Wissen. 4to T. München, 1859. Miss Frances Lea.
- Maza, Manuel Gómez de la. Flora de Cuba. 8vo T. Habana, 1887. Dictionario botanicos; de los nombres vulgares Cubanos y Puerto Riquenos. 8vo. Habana, 1889.
- Ensayo de farmacofitologia Cubana. 8vo T. Habana, 1889. The Author.
- Meek, F. B. Report on the paleontology of eastern Nebraska. 4to. Washington, 1872. John C. Lincoln.
- Meinert, Fr. Entomologiske Meddelelser I, 5, 6; II, 1. I. V. Williamson Fund.
- Melbourne Centennial International Exhibition, 1888. Descriptive Catalogue of metals, minerals, fossils and timbers. 8vo T. Sydney, 1889.
- Meneghini, Prof. Giuseppe. Alla memoria del. 24 Marzo, 1889. 8vo. Pisa, 1889.
- Nouve specie di Phylloceras e di Lytoceras del liasse superiore d'Italia. 8vo T. Pisa. Miss Frances Lea.
- Mercke, C. E. Ueber furfuräthen Pyridin und über Cocain. Inaug., Dissert., Universität Kiel. 8vo T. 1888. University of Kiel.
- Meyer, Otto. Beitrag zur Kenntniss des markischen Rupelthons. 8vo T. A. Heilprin.
- Meyer, Otto and Samuel L. Penfield. Results obtained by etching a sphere and crystals of quartz with hydrofluoric acid. The Authors.
- Michael, Albert D. British Oribatidæ. Vol. II. 8vo. London, 1888. Wilson Fund.
- Michaux, André. Journal of 1786—1796. With an introduction and notes. By Charles Sprague Sargent. 12mo. Philadelphia. John H. Redfield.
- Michelin, H. Description de quelques nouvelles espèces d'échinodermes fossiles. 8vo T. Paris, 1853. Miss Frances Lea.
- Michelotti l'Abbi G. Brevi cenni sullo studio della zoologia fossile. 8vo T. Turin, 1841. Miss Frances Lea.
- Michigan State Forestry Commission. First report of the directors, 1887, 1888. 8vo. Lansing, 1888. The Commission.
- Mills, C. K. Cerebral localization and its practical relations. 8vo. Washington, 1889.
- Lesions of the sacral and lumbar plexuses. 8vo. New York.
- Spinal localization and its practical relations. 8vo. Philadelphia, 1889. The Author.
- Milne-Edwards, A. Les expeditions scientifiques du Travailleur et du Talisman. Poissons, 1888. Purchased.

- Minnesota, Geological and Natural History Survey of. Report Vol. II. Annual Report, 16th. The Survey.
- Miquel, F. A. G. *Prolusio floræ Japonicæ*. 4to. Amsterdam. Thos. Meehan.
- Mojsisovics, E. v. und M. Neumayer. *Beiträge zur Palæontologie Österreich-Ungarns und des Orients*. Bd. VII, 3, 4. I. V. Williamson Fund.
- Moleschott, Jac. *Untersuchungen zur Naturlehre des Menschen und der Thiere*. XIV, 1, 2. I. V. Williamson Fund.
- Monaco, Prince Albert de. *Poissons Lune (Orthogoriscus mola) capturés pendant deux Campagnes de l'Hirondelle*. 8vo. Paris, 1889. The Author.
- Morelet, A. *Coquilles nouvelles de l'Afrique Meridionale*. 8vo. 1889. The Author.
- Morris, Chas. *Aryan sun myths, the origin of religions*. 8vo. Troy, N. Y., 1889. The Author.
- Morse, E. S. *Embryology of Terebratulina*. 4to. Boston. Miss Frances Lea.
- Moure, A. *Résumé analytique et méthodique*. 8vo T. Bordeaux, 1889.
- Mueller, Baron F. von. *Description of a new Gompholobium from South Western Australia, with notes on other species of that genus*. 8vo. Melbourne, 1889. The Author.
- Iconography of Australian species of Acacia*. Decade, 12, 13. Government of Victoria.
- Museum d'Histoire Naturelle des Pays-Bas. Catalogue, XII. I. V. Williamson Fund.
- Muybridge, E. *Animal locomotion. The Muybridge work at the University of Pennsylvania. The method and the result*. 8vo. Philadelphia, 1888. The University.
- Nachtigal, Dr. Gustav. *Sahara und Sudan. Ergebnisse sechsjähriger Reisen in Afrika*. 4to. Leipzig, 1889. I. V. Williamson Fund.
- Nägeli, C. v. & A. Peter. *Die Hieracien Mittel Europas*, III. H. I. V. Williamson Fund.
- Naturwissenschaftliche. *Landesdurchforschung von Böhmen*. Archiv, VII, 2. Prag. I. V. Williamson Fund.
- Nees von Esenbeck, C. G. *Die Allgemeine Formenlehre der Natur als Vorschule der Naturgeschichte*. 8vo T. Breslau, 1852. Miss Frances Lea.
- Netherland Entomological Society. *Circular regarding nomenclature*. March, 1889. The Society.
- Neumayer, M. *Ueber Brachialleisten (nierenförmige Eindrücke) der Trochiden*. 8vo T. 1883. A. Heilprin.
- Neumayer, Dr. G. *Anleitung zu wissenschaftlichen Beobachtungen auf Reisen in Einzel-Abhandlungen*. 8vo. Bd. I, II. Berlin, 1889. Purchased.
- Neumayer, M. *Die Stämme des Thierreiches*. Bd. I. I. V. Williamson Fund.
- Newberry, J. S. *The oil-field of Colorado*. January, 1889. The Author.
- Newberry, J. S. *Devonian plants from Ohio*. 8vo T. Cincinnati, Sept., 1889. The Author.
- Newbold, Michael E. *Catalogue of the large and important private collection of stone implements of the Archaic Indians of America and Scandinavia*. 8vo T. Philadelphia, 1889.
- New Jersey, Geological Survey of. *Annual report of the State Geologist, 1888*. Final Report, Vol. I. State Map, 1889. The Director.
- New South Wales. Department of Mines. *Annual report 1886*. Memoirs of the Geological Survey. Paleontology. No. 1. The Department.
- New York. Torrey Botanical Club. *Memoirs*, I. Thos. Meehan.
- New Zealand, Colonial Museum and Geological Survey of. *Twenty-third annual report of Colonial Museum and Laboratory. Reports of geological explorations during 1887-88. Meteorological report for 1885*. The Director.
- Noe, G. de la. *Les formes du terrain*. 4to. Paris, 1889. Texte and plates. I. V. Williamson Fund.
- Note sur les derniers progrès de la question de l'unification du calendrier dans ses rapports avec l'heure universelle. 8vo. Bologne, 1888. Academy of Sciences of Bologne.

- Notes on the Census Operations in Central India and statements showing the population. 4to. Bombay, 1882. E. Indian Government.
- Nyat, M. Sur une découverte d'ossements fossiles. 8vo T. Bruxelles. Miss Frances Lea.
- Nyst, H. Notice sur le genre *Neaera*, Gray et description d'une espèce fossile nouvelle pour la faune Belge. 8vo. T. Miss Frances Lea.
- Ochsenius, Carl. Rechnungstrennung von Kieserit und Reichardit. 8vo T. 1889.
- Ueber Boracit von Douglasshall. 8vo T. Marburg, 1889.
- Ueber Maqui. 8vo T. Cassel, 1889.
- Ueber die Wirkung der Brandung an der chilenischen Küste. (Slip.) 1889. The Author.
- Oldham, R. D. A bibliography of Indian geology; being a list of books and papers relating to the geology of British India and adjoining countries, published previous to the end of A. D. 1887. 8vo T. Preliminary issue. Calcutta, 1888. East Indian Government.
- Oliver, Chas. A. Double chorio-retinitis, with partial degeneration of the optic nerve, associated with curious lymph extravasation into the retina and vitreous. 8vo T. 1887. The Author.
- Pacheco, Gen. Carlos. Memoria presentada al Congreso de la Union por el Secretario de Estado y despacho de Fomento, colonizacion, industria y comercio de la Republica Mexicana. 4to. I—III, The Author.
- Paetal, Fr. Catalog der Conchylien-Sammlung. 9e, 10e L. The Author.
- Paleontographica. Beiträge zur Naturgeschichte der Vorzeit (Zittel). XXXV, 23. Wilson Fund.
- Palassou, M. Suite des mémoires pour servir à l'histoire naturelle des Pyrénées, et des Pays adjacents. 8vo. Pau, 1819. Supplement to same, 1821.
- Essai sur la minéralogie des monts-Pyrénées. 4to. Paris, 1834. Miss Frances Lea.
- Paléontologie Française. Ire Ser., Animaux Invertébrés, Terrain Juras. L. 87—89; Terrains Tertiaires L. 15—17. Wilson Fund.
- Parker, G. H. A preliminary account of the development and history of the eyes in the lobster. Oct. 10, 1888. The Author.
- Parlatore, Filippo. Flora Italiana, continuato da Teodoro Caruel, VIII, Part 3.
- Pennsylvania. Second Geological Survey. Annual Reports 1886. A 2. Atlas pt. 2, 3, 4. AA. Western Middle Anthracite Field. Pt. II. Northern Anthracite Field. Pt. II, III, IV. Eastern Middle Anthracite Field. B. Mineralogy. C 7. Bucks and Montgomery Co. D 6. South Mountain Sheets. H 2. and H 3. Atlas. O 3. Museum Catalogue 3. P 4. Vol. I. Dictionary of Fossils. 1887, Annual Report. The Survey.
- Same Hon. Chas. M. Betts.
- State Board of Health. Third Annual Report of. The Board.
- Pergens E. Deux nouveaux types de bryozaires cténostomes. 8vo T. Bruxelles. The Author.
- 1889.
- Pilsbry, H. A. New and little known mollusks, No. 1. 8vo T. Philadelphia, 1889. On the Helicoid land mollusks of Bermuda. 8vo T. The Author.
- Plath, G. Ueber B.-Aethyl-d-Stillbazol und einige seiner Derivate. Inaug. Dissert., Universität Kiel. 8vo T. 1889. University of Kiel.
- Portugal. Seccao dos Trabalhos geologicos de Portugal. Recueil d'études paleontologiques sur la Faune Cretacique, II, 2. The Survey.
- Pouchet, G. and H. Beaugard. Traité d'ostéologie comparée. 8vo. Paris, 1889. I. V. Williamson Fund.
- Prantl, K. Lehrbuch der Botanik für mittlere und höhere Lehranstalten. 8vo. Leipzig. Auf. 7. Purchased.
- Prevost, Constant. Coupe des terrains tertiaires du bassin de Paris. Folded map. Wm. W. Jefferis.
- Extrait d'une lettre de., datée de Malte le 3rd Oct., 1831. Miss Frances Lea.

- Programme for observation of the minor planet Victoria. 4to. 1886.  
Royal Observatory, Cape of Good Hope.
- Quenstadt, Friedrich August. Die Ammoniten de schwäbischen Jura. H. 20 and 21, F. and A. I. V. Williamson Fund.
- Rabenhorst, L. Kryptogamen Flora Deutschlands, Oesterreichs und der Schweiz. I, Bd. 3e Abth. 31 L.; IIer Bd. L. 12, 13, 14; IVer Bd. L. 10, 11. I. V. Williamson Fund.
- Ramsey, E. P. Tabular list of all the Australian birds at present known to the author, showing the distribution of the species over the continent of Australia and adjacent islands. 8vo. Sydney, 1888. Trustees of Australian Museum.
- Rathbun, R. The devonian brachiopoda of the Province of Para, Brazil. 8vo T. 1878. The Author.
- Descriptive catalogue of the collection illustrating the scientific investigation of the sea and fresh waters. 8vo T. Washington, 1882. Angelo Heilprin.
- Rayet, M. Com. Météorol. de la Gironde. Observations pluviométriques et thermométriques faites dans le Département de la Gironde de Juin 1886 a Mai, 1887. Bordeaux, 1887. The Author.
- Reade, Oswald A. Plants of the Bermudas or Somers' Islands. 8vo T. Bermuda, 1885. Angelo Heilprin.
- Reinke, Dr. J. Atlas deutscher Meeresalgen. Heft I. I. V. Williamson Fund.
- Renévier, E. Congrès géologique international de Londres en Septembre, 1888. Philippe de la Harpe, sa vie et ses travaux scientifique. 8vo. Lausanne 1889. The Author.
- Report on the census of Assam for 1881. 4to. Calcutta, 1883. East Indian Government.
- Report on the census of British Burma. Taken on the 17th of February, 1881. 4to. Rangoon, 1881. East Indian Government.
- Reusch, Hans. Bommeloen og Karmoen med Omgivelser geologisk beskrevne. Christiana, 1888. 4to. Geological Society of Norway.
- Ricart, D. Lauro Clariana y. Memoria inaugural leida en la noche del 10 le Nov. por D. Lauro Clariana y Rickart en la Real Academia de Ciencias naturales y Artes de Barcelona en el Año Académico de 1888 á 1889. Barcelona, 1889. The Author.
- Rice, Lewis. Report on the Mysore census of 1881. 4to. Bangalore, 1884. East Indian Government.
- Richter, Edward. Die Gletscher der Ostalpen. 8vo. Stuttgart, 1888. I. V. Williamson Fund.
- Rogers, H. R. Gravity. 8vo T. Dunkirk, N. Y., 1889. The Author.
- The nebular hypothesis. 8vo T. Dunkirk, N. Y., 1889. The Author.
- Rolleston, George. Forms of animal life, a manual of comparative anatomy with description of selected types. 8vo. Oxford, 1888, 2nd Ed. I. V. Williamson Fund.
- Rosenbach, H. Microscopical physiography of the rock-making minerals; an aid to the microscopical study of rocks . . . Translated and abridged for use in schools and colleges by Joseph P. Iddings. 8vo. New York, 1888. I. V. Williamson Fund.
- Rossmassler's Iconographie der europäischen Land und Süßwasser Mollusken. IV, 1, 2. I. V. Williamson Fund.
- Roumania. Harta geologica generala. Sheets 15-19, 20-24. Ministeral Lucrărilor publice. Anuarulu Biuroului Geologicu, Anul III, 1. Geological Survey of Roumania.
- Roverosa, D. Jose N. Vida y trabajos del naturalista Belga Augusta B. Ghiebreghit. Explorator de Mexico. 4to T. Tabasco, 1889. The Author.
- Rutley, Frank. Rock-forming minerals. 8vo. London, 1888. I. V. Williamson Fund.
- Ryder, Prof. J. A. The origin and meaning of sex. 8vo T. Philadelphia, 1889. Academy Extra and "Biological Bulletin, No. 1." The Author.

- Saccard, P. A. *Sylloge Fungorum omnium hucusque cognitorum*. VI; VII, 2. I. V. Williamson Fund.
- Sachse, Julius F. Thirty-six photographs illustrating paper on the evolution of the *Cereus* in Am. Journ. of Photog., Nov., 1888. The Author.
- The evolution of *Cereus*, 1888. 8vo T. With photographs. The Author.
- Saint Hilaire, G. A. Rapport sur un travail de V. Andouin et Milne Edwards, ayant pour titre: Recherches anatomiques sur le système nerveux des crustacés. 8vo T. Paris, 1828. Miss Frances Lea.
- Saint-Leger, Dr. Recherches sur les anciens herbaria. 8vo T. Paris, 1886.
- Vicissitudes onomastiques de la Globulaire vulgaire. 8vo T. Paris, 1889. The Author.
- Sarasin, Paul & Fritz. Ergebnisse naturwissenschaftlicher Forschungen auf Ceylon in den Jahren. II, 3. I. V. Williamson Fund.
- Sargent, Charles Sprague. Journal of André Michaux. See Michaux.
- Sauvagere, M. de la. Recueil de dissertations, ou recherches historiques et critiques. 8vo. Paris, 1776. Miss Frances Lea.
- Savastano, G. N. La forza educativa, pensieri pratici. Agnone, 1888. The Author.
- Scacchi, A. Sopra le specie di silicati del Monte di Somma e del Vesuvio. 4to. Naples, 1852. Miss Frances Lea.
- Scheafer, P. W. The waste of anthracite mining. Oct. 29, 1888. (Sheet.) The Author.
- Schiodte, J. C. Zoologia Danica. 6e H. I. V. Williamson Fund.
- Schimper, A. F. W. Botanische Mittheilungen aus den Tropen. H. 2. I. V. Williamson Fund.
- Schmidt, Dr. C. Zur Geologie der Schweizer Alpen. 8vo T. Basel, 1889. Purchased.
- Schomburgk, R. Report on the progress and condition of the Botanic Garden (South Australia) during the year 1887. The Author.
- Schmidt, Adolf. Atlas der Diatomaceen-Kunde. H. 33, 34, 35, 36. I. V. Williamson Fund.
- Scott, W. B. and H. F. Osborn. Preliminary report on the vertebrate fossils of the Uinta formation, collected by the Princeton Expedition of 1886. 8vo T. Philadelphia, 1888. Angelo Heilprin.
- Scribner, F. Lamson. List of the North American Andropogoneæ. 8vo T. New York. The Author.
- Scudder, Samuel H. The butterflies of the Eastern United States and Canada with special reference to New England. Part 1-12. I. V. Williamson Fund.
- Seeböhm, Henry. The geographical distribution of the family Charadriidae, or the plovers, sandpipers, snipes and their allies. 4to. London, 1888. I. V. Williamson Fund.
- Sekiya, S. A model showing the motion of an earth particle during an earthquake. 8vo. Tokio, 1887. The Author.
- Semper, C. Reisen im Archipel der Philippinen. 2er Th. 2er Bd. XVI H. 2e Hälfte; V Bd., 4 L. I. V. Williamson Fund.
- Servain, Dr. Georges. Étude sur les mollusques recueillis en Espagne et en Portugal. 8vo. Paris, 1880. The Author.
- Shaler, N. S. Aspects of the earth. 8vo T. New York, 1889. Purchased.
- Sharp, David. An address read before the Entomological Society of London at the anniversary meeting on the 16th of January, 1889. London, 1889. The Author.
- Sherborn, Chas. Davies. A bibliography of the foraminifera, recent and fossil, from 1665-1888. 12mo. London, 1888. I. V. Williamson Fund.
- Shulfeldt, R. W. Outlines for a museum of anatomy. 8vo T. Washington, 1885. Angelo Heilprin.
- The Navajo tanner, 1888.
- Observations upon the osteology of the North American Anseres. 8vo. Washington, 1889.

- Observations upon the osteology of the orders Tubinares and Steganopodes.  
Svo T. Washington, 1889.
- Osteological studies of the subfamily Ardeinæ. Pt. I, II. Svo T. Wash-  
ington. The Author.
- Simonkai, Ludovicus. Enumeratio floræ Transsilvanicæ vesculosæ critica. Ex  
mandata Societatis Scientiarum Naturalium Regiæ Hungariæ. Svo. Buda-  
pest, 1886. Royal Hungarian Natural History Society.
- Simpson, Chas. T. Contributions to the mollusca of Florida. Svo T. Daven-  
port, 1886. The Author.
- Stabile, l'Abbé Jos. Description de quelques coquilles nouvelles ou peu connues.  
Svo T. Paris, 1859. Miss Frances Lea.
- Statistics of the British-born subjects recorded at the census of India. Feb. 17th,  
1881. 4to. Calcutta, 1883. East Indian Government.
- Statistics of the population enumerated in the Andamans, 17th of February, 1881.  
4to. Calcutta, 1883. East Indian Government.
- Stearns, Robert E. C. On certain parasites, commensals, and domiciliaries in the  
pearl oyster Meleagrinae. Svo. Washington, 1886. The Author.
- Steele, J. D. & J. W. P. Jenks. A popular zoology. Svo. New York & Chicago,  
1887. Angelo Heilprin.
- Steiner, P. Betrachtungen über die Idee einer Weltsprache. Svo T. Berlin,  
1886.
- Offenes Sendschreiben über Weltsprache, Volapük und Pasingua. Svo T.  
Leipzig, 1888.
- Summary of the universal language Pasingua. Svo T. Darmstadt, 1889.
- Drei Weltsprach-Systeme. Svo T. Berlin, 1889. The Author.
- Steinmann, Gustav. Elemente der Paläontologie, 1 H. I. V. Williamson Fund.
- Stone, Witmer. Catalogue of the Muscicapidae in the collection of the Academy  
of Natural Sciences of Philadelphia, 1889.
- Graphic representation of bird migration. Svo T. 1889.
- On Pratincola salax Verr. and allied species. Svo T. Philadelphia, 1889.  
The Author.
- Stossich, Michele. Il genere Heterakis, Dujardin. Svo T. Zagreb, 1888.
- I Distomi delgi Anfibi. Lavoro monografico. Svo. Trieste, 1889.  
The Author.
- Strasburger, E. Histologische Beiträge. Svo. H. II., Jena. Purchased.
- Suess, Von E. Neue Reste von Squalodon aus Linz. Svo T. Wien, 1868.  
A. Heilprin.
- Symons, G. J. The eruption of Krakatoa and subsequent phenomena. 4to.  
London, 1888. I. V. Williamson Fund.
- Szabo, J. The first mining exposition in the U. S. of America at Denver, Col.  
Svo T. Budapest, 1882.
- On a new microchemical method of determining the feldspar in rocks. Svo  
T. 1882. A. Heilprin.
- Taschenburg, O. Bibliotheca Zoologica, II L. 6.
- Taylor, Thos. Food products. Twelve edible mushrooms of the United States,  
illustrated with 12 colored types. How to select and prepare for the table.  
12mo. Washington, 1889. The Author.
- Taylor, R. C. Fossil fishes of the carboniferous formation or coal measures, the  
devonian system, the upper and lower silurian group. Svo. Philadelphia.  
Mrs. R. C. Taylor.
- Theobald, W. Index of the genera and species of mollusca in the Hand-List of  
the Indian Museum, Calcutta. Pt. I, II. The Museum.
- Thomas, Charles. Remarks on the geology of Cornwall and Devon. Svo T.  
Redruth, 1859. Wm. W. Jefferis.
- Thomas, Oldfield. Catalogue of the marsupialia and monotremata in the collection  
of the British Museum. Svo. London, 1888.  
Trustees of British Museum.

- Thompson, D'Arcy. A bibliography of protozoa, sponges, cælenterata and worms, including also the polyzoa, brachiopoda and tunicata. 8vo Cambridge, 1885. I. V. Williamson Fund.
- Thomson, C. G. *Opuscula entomologica*. Fasc., VIII-X, XII, XIII. I. V. Williamson Fund.
- Thomson, Sir C. Wyville. Report of the scientific results of the voyage of H. M. S. "Challenger" during the years 1873-76. Zoology, text and plates, XXVIII-XXXI. H. B. M. Government.
- Tiedeman, Dr. H. Beobachtungen an zwei lebenden Chimpansi masc. et fem. 8vo T. Bonn., 1879. A. Heilprin.
- Tiffany & Co. A catalogue of a collection of precious ornamental stones of North America exhibited at the Paris Exposition 1889. 8vo T. New York, 1889. Tiffany & Co.
- Tokyo Medical Library, catalogue of the. 1888. 8vo T. The Society.
- Trumbull, Gurdon. Names and portraits of birds which interest gunners. 8vo. New York, 1888. I. V. Williamson Fund.
- Tryon, Geo. W. Jr. Manual of Conchology, structural and systematic, Pt. 40-43. Second Series, Pulmonata, Pt. 16-19. Conchological Section A. N. S.
- Tschirch, Dr. A. *Angewandte Pflanzenanatomie I*. I. V. Williamson Fund.
- Tuckerman, Edward. A synopsis of North American lichens. Part II. Comprising the Lecideacei, and (in part) the Graphidei. 12mo 1888. New Bedford, Mass. The Author.
- Uhlworm, Oscar and F. H. Haenlein. *Bibliotheca botanica*. H. 12, 13. I. V. Williamson Fund.
- United States. Chief of Engineers, United States Army, Report of. 1888, Pts. 1, 2, 3, 4. Engineer Department, U. S. A.
- Commission of Fish and Fisheries. The fisheries and fish industries of the United States. Section III; V, 1-2. Text and Plates. Report for 1886.
- Department of Agriculture. Contagious diseases of domesticated animals. Investigations by Department of Agriculture, 1883-84. 8vo. Washington, 1884. John C. Sinclair
- Botanical Division. Bulletin No. 7-10.
- Section of vegetable Pathology. Circular No. 8.
- Journal of Mycology. V. 1, 2, 3.
- Treatment of black rot of the grape. 8vo T.
- Division of Economic Ornithology and Mammalogy. Bulletin, No. 1.
- Division of Entomology. Bulletin, 20. Periodical Bulletin I, 6-12; II, 1-4. The Department.
- Department of the Interior. Bureau of Education. Circular of Information 1888 No. 2-7; 1889 No. 1. Report of the Commissioner for 1886-87. The Department.
- Census Office. Tenth census of the U. S. XVII, 2; XIX, 2; XXI; XXII.
- U. S. Geological Survey. Annual Report 7th. Mineral Products of the U. S. 1882-87. (Sheet.) The Mineral Resources of the U. S. (David F. Day.) 1887. Bulletin No. 43-53. Monographs XIII & Atlas XIV.
- Report of the Commissioner of Labor for 1888. The Department.
- Department of State. Maps showing the location of the diplomatic and consular offices of the United States of America, March 1, 1888. Folio sheets.
- Reports from the Consuls. No. 96-100, 102-106½, 107, 107½, 108. New Series, 1889, No. 1. The Department.
- Treasury Department, Chief of the Bureau of Statistics. Quarterly and annual reports, June 30, 1888, 1889, 1; March 31, 1889.
- Director of the Mint. Report on the production of the precious metals during 1887 and 1888. Annual report, June 30, 1888.
- Lighthouse Board. Annual report for the fiscal year ended, 1888. Washington. The Department.
- War Department. Annual report of the Chief of Ordinance to the Secretary of War for the fiscal year ended, June 30, 1888.



- Index catalogue of the Library of the Surgeon-General's Office, United States Army. 4to. Vol. X. The Department.
- Vasey, Dr. Geo. Report of the Botanist, for the Agricultural Department. Year 1888. J. M. Rusk.
- Vayssière, A. Atlas d'anatomie comparée des invertébrés. Fasc. 3. I. V. Williamson Fund.
- Velde, W. von. Über einen Spezialfall der Bewegung eines Punktes von festen Centren angezogen wird. Inaug. Dissert., Universität Kiel. 4to. 1889. The University of Kiel.
- Villa, A. Sull' origine delle perle e sulla possibilità di produrle artificialmente. 8vo T. Milan, 1860.
- Della annessione dei molluschi di Savoja e Nizza alla fauna Fancese. 8vo T. Milan, 1862.
- Gite malacologiche e geologiche nella Brianza e nei dintorni di Lecco e particolarmente alla nuova miniera di piombo argentifero nella Valsassina relazione. 8vo T. Milano, 1863. Miss Frances Lea.
- Villa, A. & G. Catalogo dei molluschi della Lombardia. 8vo T. Milan, 1844. Miss Frances Lea.
- Villars, D. Mémoires sur la topographie et l'histoire naturelle. 8vo T. Lyon, 1804. Miss Frances Lea.
- Vogt, Carl & Emile Yung. Traité d'anatomie comparée pratique. Livr. 12—14. I. V. Williamson Fund.
- Wadsworth, M. E. On the trachyte of Marblehead Neck, Mass. 8vo T. Boston, 1881.
- The fortieth parallel rocks. 8vo T. Boston, 1883.
- Methods of instruction in mineralogy. 8vo T. 1883.
- The argillite and conglomerate of the Boston Basin. 8vo T. Boston, 1882.
- The Bishopville and Waterville meteorites. 8vo T. 1883. Angelo Heilprin.
- Wagner, M. Die Entstehung der Arten durch räumliche Sonderung. 8vo. 1889 I. V. Williamson Fund.
- Waldheim, G. Fischer de. Notice sur quelques sauriens fossiles du Gouvernement de Moscou. 4to. Moscou, 1846. Miss Frances Lea.
- Ward, Lester F. The paleontologic history of the genus *Platanus*. 8vo T. Washington, 1888. A. Heilprin.
- Warren, B. H. Report on the birds of Pennsylvania. With special reference to the food-habits, based on over three thousand stomach examinations. 8vo. Harrisburg, 1888. Chas. M. Betts.
- Weir, T. S. Census of the city and island of Bombay taken on the 17th of February, 1881. 4to. Bombay, 1883. East Indian Government.
- Weisman, Dr. Aug. Die Continuetät des Keimplasmas als Grundlage einer Theorie der Vererbung. 8vo T. Jena, 1885. I. V. Williamson Fund.
- Westerlund, Carl Agardh. Fauna in der paläarctischen Region lebender Binnenconchylien, II. I. V. Williamson Fund.
- White, Chas. A. Remarks on the genus *Ancella*, with especial reference to its occurrence in California. 4to T. March, 1889. A. Heilprin.
- White, E. Report on the census of the N. W. P. and Oudh and of the native states of Rampur and native Garhwal, taken Feb. 17th, 1881. 4to. Allahabad, 1882. Supplement. East Indian Government.
- Willard, De Forest. Osteotomy for anterior curves of the leg. Sept., 1888. The Author.
- Woodward, Arthur S. Catalogue of the fossil fishes in the British Museum. Part I. 8vo. London, 1889. Trustees of British Museum.
- Wright, E. P. Notes on foraminifera. 8vo. 1877. A. Heilprin.
- Wright, G. Frederick. The ice age in North America, and its bearing upon the antiquity of man. 8vo. New York, 1889. Purchased.
- Zittel, Carl A. v. Palæontographica. Beiträge zur Naturgeschichte der Vorzeit. 4to. Bd. XXXV, 4—6; XXXVI, 4—6. Wilson Fund.
- Zuccardi, G. F. Su di alcune Aphysidae dell Oceano Pacifico, appartenenti alla collezione chierchia. 8vo. Naples, 1889. The Author.

## JOURNALS AND PERIODICALS.

- Adelaide. Royal Society. Transactions, X. The Society.
- Albany. New York State Library. Reports of Trustees, 70, 71. The Trustees.
- New York State Museum of Natural History. Annual reports, 40-42.
- Bulletin I, 2-6, 1886, 1887. The Trustees.
- Regents of the University of the State of New York. Annual reports, 100, 101, 102. The Regents.
- Altenburg. Mittheilungen aus dem Osterlande. New Folge, IV. The Publishers.
- Amiens. Académie des sciences, des lettres, etc. Mémoires, XXXIII, XXXIV, XXXV.
- Société des Antiquaires de Picardie. Album Archéologique, Fasc. I, II.
- Bulletin, 1889, No. 1-3. Mémoires, 3rd Ser. VIII, X. The Society.
- Société Linnéenne du Nord de la France. Bulletin, IX, 187-188. The Society.
- Amsterdam. K. Akademie van Wetenschappen. Jaarboek, 1886, 1887. Verhandel-  
lingen, Afd. Letterk. D. XVII; Afd. Natuurk. D. XXVI. Verslagen en  
Mededeelingen. Afdeeling Natuurkunde, Deel III, IV; Afdeeling Letter-  
kunde, IV Deel. The Academy.
- Het Genootschap Natura Artis Magistra. Bijdragen tot de Dierkunde, XIX;  
XV, 1, 2; XVI. Feest Nummer, 1888. The Society.
- Angers. Société d'études scientifiques. Bulletin, 1886, XVI, XVII, The Society.
- Société National d'Agriculture, Sciences et Arts. Mémoires, 4e. Ser. II.
- Anvers. Société royale de géographie. Bulletin, XIII, 3, 4. The Society.
- Arezzo, R. Accademia Petrarca di scienze, lettere ed arti. Atti, VII, 1, 2. The Academy.
- Auxerre. Société des sciences historiques et naturelles de l'Yonne. Bulletin,  
XLII, Nos. 1, 2. The Society.
- Baltimore. American Chemical Journal. X, 6; XI, 1-6. The Editor.
- American Journal of Mathematics. XI, 2-4, XII, 1. Index to I-IX.
- Johns Hopkins University. Circulars, No. 68-76. Johns Hopkins University.
- Maryland Academy of Sciences, Transactions, I pp. 1-32. The Academy.
- Peabody Institute. 22nd Annual Report. The Trustees.
- Bangor. Maine State College, Agricultural Experiment Station. Annual Report.  
1888, 1889. Part 1. The Director.
- Basel. Schweizerische paläontologische Gesellschaft. Abhandlungen XV.  
I. V. Williamson Fund.
- Batavia. Bataviasche Genootschap van Kunsten en Wetenschappen. Tijdschrift  
voor Indische Taal-Land- en Volkenkunde. Deel. VII, VIII, 5, 6;  
IX, X, XVI, 4; XXV-XXXII. Notulen. Deel. XVI, 3, 4; XVII-  
XIX, XXVI. Vergaderingen. Inhoudsopgave Tevens Prijslijst de  
Werken. The Society.
- Natuurkundig Vereen in Nederlandsch Indie. Natuurkundig Tijdschrift voor  
Nederlandsch Indie. 8e Ser. IX. The Society.
- Bath. Postal Microscopical Society. Journal of Microscopy and Natural Science.  
II, 5-8. The Society.
- Belfast. Natural History and Philosophical Society. Proceedings, Session  
1887-88. The Society.
- Naturalists' Field Club. Report, III, 1. The Society.
- Berkeley. Pittonia, I 5. The Editor.
- University of California. Register, 1888-89. The Trustees.

- Berlin K. Akademie der Wissenschaften. Abhandlungen, physikalisches, 1888, Anhang. Sitzungsberichte, 1888, XXXVIII-LII, Title and Index, 1889. No. I-XXXVIII. The Academy.
- Afrikanische Gesellschaft in Deutschland. Mittheilungen, Bd. I-IV, 1, 2. The Society.
- Archiv für Naturgeschichte, LII, II, 3-LV, 1, 2. The Editor.
- Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. Verhandlungen, 1869, Dec.; 1870, Jan.-Apr., Oct., Nov.; 1871, Jan.-March, Mai-July, Oct., Nov.; 1872-1880; 1881, April-Dec.; 1882; 1883, Juli-Dec., 1888, Jan., Feb, April, Mai, June, 1889, Jan.-Marz. The Society.
- Zeitschrift für Ethnologie, XX, 4-6; XXI, 1-4. I. V. Williamson Fund.
- Deutsche Botanische Gesellschaft. Berichte, Bd. I-VI, VII, 1-7. The Society.
- Botanischer Jahrbuch (Just) XIV, 1e Abth, 2, 3 H. 2e Abth. 1, 2 H. XV, 1e Abth. 1 H. I. V. Williamson Fund.
- Deutscher Entomologischer Verein in Berlin. Entomologische Zeitschrift, XXXI, 1; XXXII, 2; pp. 1-8, 241-232. The Society.
- Entomologischer Verein. Deutsche entomologische Zeitschrift. Jahr. 1889, H. I. The Society.
- Deutscher Fischerei Verein. Circular, 1889, No. 1-5. The Society.
- Gartenflora, 1889, 1-24; 1889, H. 1-12. T. Meehan.
- Deutsche geologische Gesellschaft. Zeitschrift, XL, 2-4. The Society.
- K. P. geologische Landesanstalt und Bergakademie. Jahrbuch, 1887. The Director.
- Gesellschaft für Erdkunde. Verhandlungen, Bd. 1-XVI, 1-5, 7. Zeitschrift, Bd. XXIII, 1-6; XXIV, 1-4. The Society.
- Gesellschaft Naturforschender Freunde. Sitzungsberichte, 1887, Nos. 1-8; 1888, No. 8-10. The Society.
- Jahrbücher für wissenschaftliche Botanik, XX, 1-4. I. V. Williamson Fund.
- Naturae Novitatis. Friedl., 1888, No. 21-25. Title and Index; 1889, No. 1-9, 12-19. The Publishers.
- Naturwissenschaftliche Wochenschrift, III, 8-26; IV, 1-34. The Editor.
- Bern. Naturforschende Gesellschaft. Mittheilungen, 1195-1214. The Society.
- Birmingham. Philosophical Society. Proceedings, VI, 1. The Society.
- Bistritz. Gewerbeschule. Jahresbericht, 14. The Director.
- Bloomington, Ind. Indiana University, Annual Catalogue of the College. 65th Year. The Trustees.
- Bologna. Accademia delle Scienze. Memorie, Ser. 4. T. III, 1-4; T. VIII. The Academy.
- Bonn. Archiv für die gesammte Physiologie des Menschen und der Thiere, XLIV, 5-12; XLV; XLVI, 1-5. I. V. Williamson Fund.
- Archiv für mikroskopische Anatomie, XXXII, 4; XXXIII; XXXIV, 1, 2. I. V. Williamson Fund.
- Naturhistorischer Verein. Verhandlungen, XLV, 2; XLVI, 1. The Society.
- Bordeaux. Académie nationale des Sciences, Belles-Lettres et Arts. Actes, 48e An. The Society.
- Société Linnéenne. Actes, XLI, 4, 5, 6. The Directors.
- Société des Sciences physiques et Naturelles. Mémoires, 3e Ser. III, 2. The Editor.
- Boston. City Hospital. 25th Report. Society of Natural History. Proceedings, XXIII, 3, 4, pp. 561 et seq., XXIV, 1, 2, pp. 33-256. The Society.
- American Society of Naturalists. Records, I, 6. The Society.

- American Society for Psychical Research, 1885. Part 8; I, 3, 4.
- Braunschweig. Archiv für Anthropologie, XVIII, 3. I. V. Williamson Fund.
- Jahresbericht über die Fortschritte der Chemie. Fittica, 1886. H. 1, 2.
- Naturwissenschaftliche Rundschau. III, No. 47—52; IV, 1—48.
- The Editor.
- Zeitschrift für wissenschaftliche Mikroskopie, V, 4; VI, 1, 2.
- I. V. Williamson Fund.
- Bremen. Naturwissenschaftlicher Verein. Abhandlungen, X, 3. The Society.
- Breslau. K. Leopold.-Carol. Akademie der Naturforscher. Fest-Rede bei der Jubelfeier. 4to. 1853. Miss Frances Lea.
- Brisbane. Royal Society of Queensland. Proceedings, II, 1, 2; III, IV, V, 3—5; VI, 1—4. Annual Meeting, July, 1889. The Society.
- Bristol. Naturalists' Society. Proceedings, VI, 1; List, 1889. The Society.
- Brooklyn. Entomologica Americana, IV, 9; IV, 1—9. The Editor.
- Brooklyn Library. Annual Report, No. 31. Bulletin of New Books, No. 26.
- The Trustees.
- Brünn. K. K. Mährisch-Schlesische Gesellschaft zur Beförderung des Ackerbaues, der Natur- und Landeskunde. Mittheilungen, 1888. The Society.
- Naturforschender Verein. Verhandlungen, XXVI. Bericht der Meteorologischen Commission, 1886. The Society.
- Bruxelles. Académie Royale des Sciences des Lettres et des Beaux-Arts de Belgique. Mémoires Couronnés. 4to. XLIX. Mémoires Couronnés. 8vo. XL, XLI, XLII. Bulletin, 58me Année 10—12; 59me Année, 3e Ser. T. XVII, 1—8. The Academy.
- Société Royale de Botanique. Bulletin, Tomes. 26, I; 27. The Society.
- Société Entomologique de Belgique. Compte-Rendu, 99—117.
- The Society.
- Société Belge de Géographie. Bulletin, 1888, 4—6; 1889, No. 1, 2.
- The Society.
- Société Malacologique. Annales, XXII. Procès-Verbaux, 1888. T. XVII, 1—44, 53—72. The Society.
- Société Belge de Microscopie. Bulletin, XIV, 10; XV, 1, 10. The Society.
- Budapest. M. Tudományos Akadémia. Almanach, 1888, 1889. Ertekezések a matematikai Tudományok Körebol, IX, 1—13, XIII, 3, 8, 14, XIV, 1; XVI, 7; XVII, 2—6; XVIII, 1—5. Ertesítője XVII, XVIII, XX, XXII, 1—6; XXIII, 1. Evkönyvei I; IX, a, b, 1, 2, 4, 6; XIII, 1—10; XIV, 1—7; XV, 1—5; XVI, 1—8; XVII, 1—6. Matematikai es Természettudományi Ertesítő, I, II, V, 6—9; VI, 1—9; VII, 1, 2. Matematikai es Természettudományi Közléinyenek vonatkozolag a hazai Viszonyokra, XX, 2—5; XXI, 1; XXII, 1—8; XXXIII, 1—3. Osztaly ának kulon Kiadvanya, 1887, 1. The Academy.
- Ungarische Akademie der Wissenschaften. Mathematische und naturwissenschaftliche Berichte aus Ungarn, V, VI. The Academy.
- Ungarisches National Museum. Természettajzi Füzetek, XI, 3, 4; XII, 1—3. The Director.
- Buenos Aires. Instituto Geografico Argentino. Boletin, X, 8, 9.
- Museo publico de Buenos Aires. Anales, 13, 15, The Director.
- Sociedad Cientifica Argentina. Anales, VI, 3, 4; VII, 1—4, 6, 38, 39; XXII, 2, 3; XXVI, 1—6; XXVII, 2—6; XXVIII, 1, 2. The Society.
- Sociedad Geografica Argentina. Revista, VI, 61—68. The Society.
- Buffalo Historical Society. Annual Report, 1889. The Society.
- Caen. Académie nationale des Sciences, Arts et Belles-Lettres. Mémoires 1887—88. The Academy.
- Société Linnéenne de Normandie. Bulletin, 4e Ser. II. The Society.
- Calcutta. Asiatic Society of Bengal. Journal, LVI, Part II, Nos. 2, 3, 5; LVII, Part II, No. 4. Proceedings, 1888 No. 4—10. The Society.
- Stray Feathers, XI, 1—4. I. V. Williamson Fund.

- Cambridge. Appalachian Mountain Club. Appalachia, V, 3, 4. The Society.  
Harvard University. Library Bulletin No. 42--44. The Trustees.  
Museum of Comparative Zoology. Bulletin XVI, 3--5; XVII, 3, 4; XVIII.  
Memoirs, XIV, 1; Part II, 1; XVI, 2. Report 1887-88. The Director.  
Peabody Museum of American Archaeology and Ethnology. 22nd report.  
The Trustees.
- Cambridge, Eng'd. University. Studies from the Morphological Laboratory.  
IV, 1, 2, 3. The University.
- Canada. Royal Society. Proceedings and Transactions, Vol. VI. The Society,
- Cape Town. South African Museum. Report of the Trustees, 1888. The Director.
- Cap Rouge. Le Naturaliste Canadien, XVIII, 5--12; XIX, 1--4. The Editor.
- Cardiff. Cardiff Naturalists' Society. Report and Transactions, XX, 2. The Society.
- Cassel. Botanisches Centralblatt, XXXVI, 6; XL, 8. I. V. Williamson Fund.  
Geognostische Jahreshefte. 1888. Jahr., I. I. V. Williamson Fund.  
Malakozoologische Blätter, N. F., Bd. XI. I. V. Williamson Fund.  
Verein für Naturkunde. Berichte. 34, 35. The Society.
- Catania. Accademia Gioenia di Scienze Naturali in Catania. Bullettino mensile.  
N. S. Dec., 1888, 1889, III, 4-8. The Academy.
- Chicago. Public Library. Seventeenth annual report. The Librarian.
- Christiania. Archiv for Mathematisk og Naturvidenskab, XIII, 1. I. V. Williamson Fund.
- Norwegische Meteorologische Institut. Jarhbook, 1886. The Institute.  
Skandinaviske Naturforskeres. Forhandlingar, 30e Möde, 1886.  
Videnskab Selskab. Forhandlingar, 1883, 1887, 1888, 1-13. The Society.
- Chur. Naturforschende Gesellschaft Graubündens. Jahresbericht, XXXII. The Society.
- Cincinnati. Society of Natural History. Journal, XI, 4; XII, 1-3. The Society.
- Columbus. Ohio Meteorological Bureau. Report for Oct., Nov., 1888; Oct.-  
Nov., 1889. The Society.
- Copenhagen. Botaniske Forøning. Botanisk Tidsskrift, XVII, 1, 2. The Society.
- E. Museo Lundii. En Samling af Afhandlingar, B. 1. The Director.  
Naturhistoriske Forening. Videnskabelige Meddelelser, 1888. The Society.
- K. Nordiske Oldskrift-Selskab. Antiquarisk Tidsskrift, 1843-51. Mémoires,  
1840-45, 1888.
- K. D. Videnskabernes Selskab. Ofversigt, 1883, No. 3; 1889, No. 1, 2.  
Skrifter, 6te Række, IV, 8. The Society.
- Cordoba. Academia nacional de Ciencias exactas. Bulletin, XI, 2, 3. The Academy.
- Cracovie. Bulletin Internationale de l'Academie des Sciences. Comptes Rendus  
des Séances de l'Annee 1889 No. 1-6. The Academy.
- Crawfordsville. Botanical Gazette, XIII, 12; XIV, 1-10. The Editor.
- Danzig. Naturforschende Gesellschaft. Schriften, VII, 2. The Society.
- Darmstadt. Verein für Erdkunde. Notizblatt, IV, 9. The Society.
- Davenport. Academy of Natural Sciences. Proceedings, V, 1. The Academy.
- Denver. Colorado Scientific Society. Proceedings, III, 1. The Society.
- Dijon. Académie des Sciences, Arts et Belles Lettres. Mémoires, 1852-54, 1887.  
The Academy.
- Dorpat. Dorpater Naturforscher Gesellschaft. Archiv für die Naturkunde Liv  
-Ehst-und Kurlands, 1e Ser. IX, 5. Sitzungsberichte, Bd. II; VIII, 3. The Society.
- Dresden. Hedwigia Organ, für Kryptogamenkunde, XXVIII, 1--5. I. V. Williamson Fund.

- K. Leop.-Carol.-Deutsche Akademie der Naturforscher. *Nova Acta*, 52. Leopoldina, 24 H. The Academy.
- K. Mineralogisch-geologisches und prähistorisches Museum. Mittheilungen, H. 8. The Director.
- Naturwissenschaftliche Gesellschaft. *Isis*. Sitzungsbericht und Abhandlungen, Juli—Dec. 1888; Jan. June 1889. The Society.
- Verein für Erdkunde. Festschrift zur Jubelfeier des Achthundertjährigen Herrschaft des Hauses Wettin. Festschrift zur Jubelfeier des 25 jährigen Bestehens, 1888. The Society.
- Dublin. Royal Dublin Academy. Proceedings, VI, 3-6. Transactions IV, 2-5. The Society.
- Royal Irish Academy. Proceedings, Ser. III, Vol. I, I. Transactions, XXIX, 3-11. The Academy.
- Edinburgh. Botanical Society. Proceedings, XVII, 2. Annual Reports, I, VI-VIII, 1870-72. The Society.
- Geological Society. Transactions, V, 4.
- Royal Physical Society. Proceedings, 1887-88. The Society.
- Emden. Naturforschende Gesellschaft. Jahresberichte, 72, 73. The Society.
- Erlangen. Biologisches Centralblatt, VIII, 18-24; IX, 1-18. I. V. Williamson Fund.
- Physikalisch-medicinische Societät. Sitzungsberichte, 1889. The Society.
- Florence. Biblioteca Nazionale Centrale. Bollettino, 1888, 1889. The Director.
- Nuovo Giornale Botanico Italiano, Caruel, XXI, 1-4. The Editor.
- Società Italiana di Antropologia, Etnologia e Psicologia comparata. Archivio, XVIII, 1-3; XIX, 1, 2. The Editor.
- Società Entomologica Italiana. Bollettino, 1889, No. 1-4. The Society.
- France. Association Française pour l'Avancement des Sciences. Comptes Rendus, 1887, I, II; 1888, I, II. The Society.
- Frankfurt a/M. Aerztlicher Verein. Jahresbericht, XXIX-XXXII. The Society.
- Frankfurter Verein für Geographie und Statistik. Beiträge zur Statistik, V, 3, 4. Jahresberichte, LI, LII. Civilstand der Stadt Frankfurt a/M, Statistische Mittheilungen, 1888. The Society.
- Deutsche Malakozoologische Gesellschaft. Jahrbücher, 1889, No. 1-10.
- Physikalischer Verein. Jahresbericht, 1886-87.
- Naturwissenschaftlicher Verein. Monatliche Mittheilungen, VI, 6; VII, 5. The Society.
- Societatum Litterae, 1888 No. 8, 1889, 10; 1889, No. 1-10. The Editor.
- Freiburg, i. B. Naturforschende Gesellschaft. Berichte, III, IV, 1-5. The Society.
- Gand. Archives de Biologie. IX, 1, 2. I. V. Williamson Fund.
- Geneva. Club Alpin Suisse. Sections Romandes. L'Echo des Alpes, 1888, No. 4; 1889, No. 1, 2. The Society.
- Recueil Zoologique Suisse, V, 1, I. V. Williamson Fund.
- Société de Physique et d'Histoire Naturelle. Memoires, XXX, 1. Rapport pour les années, 1860-63, 1865-68, 1872-74, 1876-78, 1880-82, 1884. Miss Frances Lea.
- Genoa. Museo civico di Storia Naturale. Annale, XXIII-XXVI. The Director.
- Società di Letture e Conversazione Scientifiche di Ateneo Ligure. Rassegna Mensile, Anno., XII; 1889, April-Oct. Giornale, XI, 9-12. The Society.
- Gera. Gesellschaft von Freunden der Naturwissenschaften und des Naturwissenschaftlichen Kränzchens in Schleiz. Jahresbericht, XVIII-XXXI. The Society.
- Giessen. Oberhessische Gesellschaft für Natur und Heilkunde. Berichte, 26. The Society.
- Glasgow. Geological Society. Transactions, VIII, 2. The Society.

- Natural History Society. Proceedings, II, 1. The Society.  
 Philosophical Society. Proceedings, XIX. The Society.  
 Görlitz. Oberlausitzische Gesellschaft der Wissenschaften. Neues lausitzisches Magazin, XLV, 1; LXIV, 2. The Society.  
 Gotha. Dr. A. Petermann's Mittheilungen aus Justus Perthes' geographischer Anstalt. Inhaltsverzeichnis, 1888, No. 12; 1889, No. 1-10. Ergänzungsheft, 92-95. I. V. Williamson Fund.  
 Granville, Ohio. Denison University. Bulletin of the Scientific Laboratories, IV, 1, 2. The Trustees.  
 s'Gravenhage. De Nederlandsche Entomologische Vereeniging. Tijdschrift voor Entomologie, XXX, 2-4; XXXI, 1-4. The Society.  
 Graz. Naturwissenschaftlicher Verein für Steiermark. Mittheilungen, 1888. The Society.  
 Verein der Ärzte in Steiermark. Mittheilungen, Vereinsjahr, 1888. The Society.  
 Zoologisches Institut. Arbeiten, II, 4. The Society.  
 Great Yarmouth. Free Library. 3rd annual report. The Directors.  
 Groningen. Natuurkundig Genootschap. Vijssentachtigste Verslag, 1888. The Society.  
 Guéret. Société des Sciences Naturelles et Archéologiques de la Creuse. Mémoires II-V, 1-3; 2me Ser. I, II. Bulletin, Tome II, 1-3; III, 1-3; IV, 1, 2. The Society.  
 Güstrow. Verein der Freunde der Naturgeschichte in Mecklenburg. Archiv, XLII. The Society.  
 Halifax. Yorkshire Geological and Polytechnic Society. Proceedings n. s. X, XI, 1. The Society.  
 Halle, Naturforschende Gesellschaft. Abhandlungen, XVII, 1, 2. Bericht, 1887. The Society.  
 Halle a/s. Verein für Erdkunde. Mittheilungen, 1888. The Society.  
 Zeitschrift für Naturwissenschaften, LXI, 1-6; LXII, 2. The Editor.  
 Hamburg. Geographische Gesellschaft. Mittheilungen, 1887-88, 2. The Society.  
 Hamburgische wissenschaftliche Anstalt. Jahrbuch, I-IV. The Society.  
 Harlem. Musée Teyler. Archives, III, 3. The Director.  
 Société Hollandaise des Sciences. Archives, XXIII, 1-5. The Society.  
 Heidelberg. Naturhistorisch-medicinischer Verein. Verhandlungen, IV, 2, 3. The Society.  
 Helsingfors. Finska Vetenskaps-Societeten. Öfversigt, XXX. Acta, XVI. Bidrag, Nos. 7-10.  
 Sällskapet pro Fauna et Flora Fennica. Acta, IV. Meddelanden, 14. The Society.  
 Hermannstadt. Siebenbürgischer Verein für Naturwissenschaften. Verhandlungen and Mittheilungen, III, IV, XXXIV-XXXVI, XXXVIII. The Society.  
 Verein für siebenbürgische Landeskunde. Archiv, neue Folge, XX, 1, 2, 3; XXII, 1, 2. Jahresbericht 1884-1888. The Society.  
 Innsbruck. Ferdinandeum. Zeitschrift, III, 5-8, 10, 13-15, 28-32. The Director.  
 Iowa City. State Historical Society. Iowa Historical Record, 1888, October; 1889, Jan.-July. The Society.  
 Jena. Anatomischer Anzeiger, III, 27; IV, 29. The Editor.  
 Centralblatt für Bakteriologie und Parasitenkunde, IV, 20; VI, 21. I. V. Williamson Fund.  
 Medicinisch-naturwissenschaftliche Gesellsch. Zeitschrift, XXIII, 1-4. The Society.  
 Zoologische Jahrbücher, III, 3, 4. Abtheilung f. Systematik, etc., III, 3; IV, 1-4. I. V. Williamson Fund.  
 Kansas City. The Naturalist, IV, 4. The Editor.  
 Kiel. Mineralogisches Institut der Universität Kiel. Mittheilungen, I, 1. I. V. Williamson Fund.  
 Naturwissenschaftlicher Verein. Schriften, VII, 2. The Society.

- Universität. Chronik, 1888-1889, The University.  
 Klagenfurt. Landesmuseum von Kärnten. Carinthia, 1888, No. 11, 1889; No. 12. The Director.  
 Kolozsvart. Erdélyi Museum-Egylet. Orvus Termesztudományi Ertesítő, 1888, XII E of I, 1-3; II, 1-3; III, 1, 2; XIV, 1, 1; II, 1, 2; III, 1, 2. The Director.  
 Lausanne. Musée d'Histoire Naturelle. Rapports annuels des Conservateurs, 1888. The Director.  
 Société Vaudoise des Sciences Naturelles. Bulletin, V, 38, 39, 40, 97, 98. Titles and Index to XI, XII, XIII, XVI. The Society.  
 Leeds. Philosophical and Literary Society. Annual Reports, 1888-89. The Society.  
 Leipzig. Archiv für Anatomie und Physiologie. Anatomische Abtheilung, 1889, No. 1-4. Physiologische Abtheilung, 1889, No. 1-4. I. V. Williamson Fund.  
 Botanische Jahrbücher, X, 4; XI, 1, 3; XII, 2. I. V. Williamson Fund.  
 Jahresberichte über die Fortschritte der Anatomie und Physiologie, XVI, 1. I. V. Williamson Fund.  
 Journal für Ornithologie, XXXVI, 2; XXXVII, 2. I. V. Williamson Fund.  
 Morphologisches Jahrbuch, XIV, 3; XVI, 2. I. V. Williamson Fund.  
 K. Sächsische Gesellschaft der Wissenschaften. Abhandlungen, II, IX, 1; X, 9; XIV, 10-13; XV, 1-6. Berichte über die Verhandlungen, 1889, 1. The Society.  
 Verein für Erdkunde. Mittheilungen, 1888.  
 Zeitschrift für Krystallographie und Mineralogie XV, 1-6; XVII, 1, 2. I. V. Williamson Fund.  
 Zeitschrift für wissenschaftliche Zoologie, XLVII, 3,—XLVII, 2. Namen und Sachregister, 31-45. I. V. Williamson Fund.  
 Zoologischer Anzeiger, No. 293-320. I. V. Williamson Fund.  
 Leyden. Leyden Museum Notes, X, 1-4; XI, 1, 2. The Director.  
 Nederlandsche Dierkundige Vereeniging. Tijdschrift, Deel II, 3. The Society.  
 Lille. Bulletin Scientifique de Département du Nord, 1880-83. The Editor.  
 Société Géologique du Nord. Annales, XV. The Society.  
 Lisbon. Academia Real das Sciencias. Jornal de Sciences Mathematicas, &c. Memorias I, 1; III, 2, IV-VI. The Academy.  
 Associação dos Engenheiros Civis Portuguezes. Revista de Obras publicas e Minas, XIX, 227-230; XX, 231-234. The Society.  
 Liverpool. Free Public Library, Museum and Walker Art Gallery. 36th Report. The Director.  
 Geological Society. Proceedings VI, 1. The Society.  
 Liverpool Biological Society. Proceedings I-III. The Society.  
 Naturalists' Field Club. Proceedings, 1866-7, 1869-70, 1871-72, 1875-6, 1881-2, 1888. The Society.  
 London. Annals and Magazine of Natural History. 6th Ser., Nos. 12-23. I. V. Williamson Fund.  
 Anthropological Institute. Journal, XVIII, 3, 4; XIX, I. The Society.  
 British Association for the Advancement of Science. 58th Report. Wilson Fund.  
 Chemical Society. Abstracts of the Proceedings, No. 58-72. Journal, 313-324; Supp'l, Title and Indexes. The Society.  
 Curtis' Botanical Magazine, No's 1222-1233. I. V. Williamson Fund.  
 The Electrician. No's 548-601. The Editor.  
 Entomological Society. Transactions, 1888, 3-5; 1889, 1-3. The Society.  
 The "Entomologist." Vol. XXII, No. 308-318. I. V. Williamson Fund.  
 Gardener's Chronicle, No's 99-152. The Editor.  
 Royal Geographical Society. Proceedings, X, 12; XI, 11. The Society.  
 Geological Magazine, No's 294-305. I. V. Williamson Fund.



- Geological Society. Quarterly Journal, No. 177-179. The Society.  
 Geologists' Association. Proceedings X, 8; XI, 1-4. The Society.  
 Grevillea, a monthly record of Cryptogamic Botany and its literature, XVI,  
 82; XVIII, 85. I. V. Williamson Fund.  
 Hardwicke's Science Gossip, No. 288-299. I. V. Williamson Fund.  
 Royal Horticultural Society Journal, X; XI, 1, 2. The Society.  
 Ibis, 6th Ser. I, 1-4. I. V. Williamson Fund.  
 Royal Institution of Great Britain. Proceedings, XII, 2; List 1888.  
 The Society.  
 Journal of Anatomy and Physiology, XXI, 2; XXIV, 1.  
 I. V. Williamson Fund.  
 Journal of Botany, British and Foreign, No. 312-323.  
 I. V. Williamson Fund.  
 Journal of Physiology IX, 5, 6; X, 1-6. I. V. Williamson Fund.  
 Knowledge XII, 38-49. The Editor.  
 Linnean Society. Journal, Botany 156, 157, 163-170, 173; Zoology, 119-  
 121, 132, 140. Index to Journal (Botany), 1838-1886. List  
 1888-89. Transactions, Zoology II, 18; IV, 3; V, 1-3; Botany II, 16.  
 The Society.  
 London, Edinburgh and Dublin Philosophical Magazine, No. 163-174.  
 I. V. Williamson Fund.  
 Royal Microscopical Society. Journal, 1888 Part 6a, 1889, 1-4.  
 The Society.  
 Mineralogical Society of Great Britain and Ireland. Mineralogical Magazine  
 and Journal VIII, 38-40. I. V. Williamson Fund.  
 The Naturalist, No. 161-172. The Editor.  
 Nature, No. 994-1047. The Editor.  
 Paleontological Society. Publications, XLII. Wilson Fund.  
 Physical Society. Proceedings, X, 1, 2. The Society.  
 Quarterly Journal of Microscopical Science, No. 115-118.  
 I. V. Williamson Fund.  
 Queckett Microscopical Club. Journal, III, 23-25. The Society.  
 Royal Society. Philosophical Transactions, Vol. 179a, 179b. Proceedings  
 No. 272-283. List, 30th Nov., 1888. The Society.  
 Society of Arts. Journal, Vol. 36. The Society.  
 Society of Science, Letters and Arts. Transactions, Apr., 1887-Sept., 1888.  
 The Society.  
 Trübner's American and Oriental Literary Record, 240-245. The Publishers.  
 Zoological Record for 1887. I. V. Williamson Fund.  
 Zoological Society. Proceedings, 1889, 1-4. Transactions, XII, 8, 9.  
 The Society.  
 Zoologist, No. 144-155. I. V. Williamson Fund.  
 London, Can. Canadian Entomologist, XX, 12; XXI, 11. The Editor.  
 Louvain. Université Catholique. Annuaire, 53. 17 Theses. The University.  
 Lübeck. Naturhistorisches Museum. Jahresbericht, 1888. The Director.  
 Lund. University. Acta, 1887-88. The University.  
 Lyon. Société d'Agriculture, Histoire Naturelle et Arts utiles. Annales, IX, X,  
 Ser. VI, I, 1886-88. The Society.  
 Société Linnéenne. Annals, 32-34. The Society.  
 Académie des Sciences, Belles-Lettres et Arts, Mémoires, Classe des Sciences,  
 28, 29. The Academy.  
 Madison. State Historical Society of Wisconsin. Proceedings, 36.  
 The Society.  
 Madrid. Real Academia de Ciencias exactas, físicas y naturales. Anuario, 1889.  
 Memorias, XXIII, 2, 3. The Academy.  
 Observatorio. Resumen de las Observaciones 1884-1887. The Director.  
 Sociedad Geográfica. Boletín XII, 3; XVII, 3; XX, 1; XXII, 1, 2;  
 XXIII, 1-6; XXV, 3, 4; XXVI, 3-6. The Society.

- Magdeburg. Naturwissenschaftlicher Verein. Jahresbericht und Abhandlungen, 1887. The Society.
- Manchester. Geological Society. Transactions, XX, 1-3, 5-10. The Society.  
Literary and Philosophical Society. Memoirs, XI, XII; 4th Ser. I, III. The Society.
- Microscopical Society. Annual Report, 1883-1888. The Society.
- Scientific Students' Association. Annual Report, 1888. The Society.
- Manhattan, Kansas. Journal of Mycology, IV, 9-12. The Editor.
- Mannheim. Mannheimer Verein für Naturkunde. Jahresberichte, 1885-88. The Society.
- Marburg. Gesellschaft zur Beförderung der gesammten Naturwissenschaften. Sitzungsberichte, 1888. Schriften, XII, 3. The Society.
- Melbourne. Royal Society of Victoria. Transactions and Proceedings, XXII-XXIV, 2; N. S. I. The Society.
- Mendon, Ill. American Antiquarian, XI, 1-5. The Editor.
- Meriden. Scientific Association. Transactions, III. The Society.
- Metz. Académie. Mémoires, 1858-1870; 1885-86. The Academy.
- Mexico. Observatorio Meteorológico-Magnético Central de Mexico. Boletín Mensual I, 8-12 and Supplement. The Director.
- Sociedad Científica "Antonio Alzate." Resena sobre el establecimiento, II, 4-12. The Society.
- Sociedad de Geografía y Estadística. Boletín, 4a Ep., I, 3, 4. The Society.
- Sociedad Mexicana de Historia Natural. La Naturaliza, I, 5; V, 9, 10; VII, 2-4, 24. The Society.
- Meyringen. Oberländische Nachrichten, I, 1889, No. 1-8. The Editor.
- Middletown. Wesleyan University, Museum. 18th annual Report. The Director.
- Milan. R. Istituto Lombardo di Scienze e Lettere. Rendiconti, XX, 17; XXI, 18-20; XXII, 1, 3-16. The Society.
- Regio Istituto tecnico superiore. Programma, 1888-89. The Director.
- Milwaukee. Natural History Society of Wisconsin. Proceedings, 1888, pp. 191-231.
- Public Museum. Seventh annual Report, The Director.
- Minneapolis. The American Geologist, II, 6; IV, 5. I. V. Williamson Fund.
- Modena. R. Accademia di Scienze, Lettere ed Arti. Memorie, Ser. II. Vols. V, VI. The Academy.
- Società dei Naturalisti. Memorie, Ser. 3e, VII, 1, 2; VIII, 1, 2. The Society.
- Montpellier. Académie des Sciences et Lettres. Mémoires de la Section des Sciences, IV. The Society.
- Montreal. Canadian Record of Science, III, 5-7. The Editor.
- Moscow. Société Impériale des Naturalistes. Bulletin, 1888, III; Beilage. Nouveaux Mémoires, II. The Society.
- München. K. B. Akademie der Wissenschaften. Sitzungsberichte, Mathem.-physikalische Classe, 1863, I, 3; 1864, II, 2; 1865, 2-4; 1888, I, 2. The Academy.
- Gesellschaft für Anthropologie, Ethnologie und Urgeschichte. Beiträge zur Anthropologie und Urgeschichte Bayerns, VIII, 3, 4. The Society.
- Zeitschrift für Biologie von L. Buhl, XXV, XXVI, 3. I. V. Williamson Fund.
- Deutscher und Oesterreichischer Alpenverein. Mittheilungen, 1888, 1-19. The Society.
- Münster. Westfälischer Provinzial Verein für Wissenschaft und Kunst. Jahresbericht, 16. The Society.
- Nancy. Société des Sciences. Bulletin, Serie II, T, III, 21, 22. The Society.
- Naples. R. Accademia delle Scienze fisiche e matematiche. Atti. Ser. 2nd I, II. Rendiconto, 2e Ser. Anno XXVI, 1; XXVII, 12. The Society.

- Società dei Naturalisti in Napoli. Bollettino, II, 2; III, 1. The Society.  
 Zoologische Station zu Neapel. Zoologischer Jahresbericht, 1887. The Director.
- Neuchatel. Société des Sciences Naturelles. Bulletin, XVI. The Society.
- Newcastle-upon-Tyne. Natural History Society of Northumberland, Durham and Newcastle-upon-Tyne. Transactions, X, 1. The Society.
- New Haven. The American Journal of Science, No's 216-227. The Editor.  
 Yale University. Catalogue, 1888-89. Report, 1888. The Trustees.
- Newtonville, Mass. Contributions to Science, Maynard I, 1, 2. I. V. Williamson Fund.
- New York. Academy of Sciences. Annals, IV, 10, 11. Transactions, VIII, 1-8. The Academy.  
 The American Garden, IX, 12-X, 11. The Editor.  
 American Geographical Society. Bulletin, XX, 4; Suppl., XXI, 1, 2, 3. The Society.  
 American Museum of Natural History. Annual Reports, 1888-89. Bulletin II, 2, 3, pp. 49-196. The Director.  
 The Auk, 1889, VI, 1-4. I. V. Williamson Fund.  
 Central Park Menagerie. 1st Report. The Director.  
 Coöperative Index to Periodicals, IV, 4. The Editor.  
 Cooper Union for the Advancement of Science and Art. 30th Annual Report. The Director.  
 Forest and Stream, XXXI, 19-XXXIII, 19. The Editor.  
 Garden and Forest, I, 40-43. The Editor.  
 Library Journal, XIII, 11-XIV, 11. I. V. Williamson Fund.  
 Linnean Society. Abstracts of the Proceedings, 1888-89, The Society.  
 Literary News, X, 1-12. The Editor.  
 Mercantile Library Association. 68th Annual Report. Bulletin, No. 11. The Librarian.  
 New Publications, 1889. Vol. I, 1, 2. The Editor.  
 New York Medical Journal, XLVIII, 22-L, 22. The Editor.  
 New York Microscopical Society. Journal, V, 1-4. The Society.  
 Popular Science Monthly, 1889, Jan.-Dec. The Editor.  
 Science, No's 304-356. I. V. Williamson Fund.  
 State Pharmaceutical Association. Proceedings, 11th Annual Meeting, 1889. The Society.  
 Torrey Botanical Club. Bulletin, XV, 12-XVI, 11. The Society.  
 Memoirs, I, 2. Thomas Meehan.
- Osnabrück. Naturwissenschaftlicher Verein. 7er Jahresbericht. The Editor.
- Ottawa. Field Naturalists' Club. Ottawa Naturalist, II, 8-12; III, 1, 2. The Society.
- Oxford. Annals of Botany, II, 8, III, 9-11. I. V. Williamson Fund.
- Padova. R. Accademia di Scienze Lettere ed Arti. Atti e Memorie, Nuova Serie I-III. The Academy.  
 Società Veneto-Trentina di Scienze Naturali. Atti, N. S. IV. Bollettino I, 1-5; II, 1-4; III, 1-4; IV, 2, 3; X, 2. The Society.
- Palermo. Il Naturalista Siciliano, VIII, 1-12. The Editor.
- Paris. Annales des Mines, XIV, 4; XV, 3. Minister of Public Works, France.  
 Annales des Sciences Géologiques, XX, 3, 4. The Editor.  
 Annales des Sciences Naturelles. 7me Série Botanique, VIII, 4-X, 3; Zoologique, VI, 4-VII, 6. I. V. Williamson Fund.  
 Archives de Zoologie expérimentale et générale, VI, 1-VII, 2. I. V. Williamson Fund.
- École polytechnique. Journal, No. 58. The Director.  
 Journal de Conchyliologie, XXVIII, 1-4. The Editors.  
 Journal de Micrographie, 1888, No. 15-17; 1889, No. 1-9, 11-16. The Editor.

- Museum d'Histoire Naturelle. Nouvelles Archives, VIII, 2; IX, 1.  
The Director.
- Le Naturaliste, 14e An. No. 42-65.  
The Editor.
- La Nature, 17e An. Nos. 809-859. I. V. Williamson Fund.
- Revue d'Ethnographie, VI, 4, 5; VII, 1, 2; VIII, 1.  
I. V. Williamson Fund.
- Revue générale de Botanique, I, 1-10. I. V. Williamson Fund.
- Revue Scientifique, XLII, 20-XLIV, 19. I. V. Williamson Fund.
- Société d'Acclimatation. Bulletin, 1887, Nos. 3, 4, 12; 1888, Nos. 1, 3, 5, 6, 23, 24; 1889, No. 1. Revue des Sciences naturelles appliquées (Bulletin bimensuel) 1889, No. 1-22. The Society.
- Société Nationale d'Agriculture de France. Bulletin, 1887, No. 11; 1888, Nos. 8-11; 1889, Nos. 1-7. Table des Matieres, Tome 132.  
The Society.
- Société d'Anthropologie. Bulletin, XI, 1-XII, 1, 2. The Society.
- Société des Antiquaires de Picardie. Bulletins, XVI, 1886-88. The Society.
- Société de Biologie. Compte Rendu des Séances, 1884, No. 5; 1885, No. 31; 1888, 35-40; V, 4, 1889, No. 1-34. The Society.
- Société Entomologique de France. Annales, VIII, 1-4. The Society.
- Société d'Ethnographie. Bulletin, 1888-89, Nos. 17-32.  
Mr. Stewart Culin.
- Société Française de Minéralogie. Bulletin, XI, 7, 8; XII, 1-7.  
The Society.
- Société Géologique de France. Bulletin, VIII, 7; XV, 9; XVI, 5-10; XVII, 1-6. The Society.
- Société Malacologique de France. Bulletins, V. The Society.
- Société Philomathique. Bulletin, 7me Ser. I, 1, 2. XII, 4; Compendu sommaire des séances 1889, No. 1-12; Oct. 26th, Nov. 9th. Mémoires Centenaire, 1788-1888. The Society.
- Société Zoologique. Bulletin, XIII, 7-10; XIV, 1-6. Mémoires, I, 2.  
The Society.
- Penzance. Royal Geological Society of Cornwall. Transactions, XI, 3.  
The Society.
- Perth. Scottish Naturalist, New Series, 1889, 23-26. The Editor.
- Philadelphia. Academy of Natural Sciences. Proceedings, 1888 No. 3 1889, No. 2. The Publication Committee.
- American Entomological Society. Transactions, XVI, 2, 3. The Society.
- American Journal of the Medical Sciences, 1889, Jan.-Nov. The Editor.
- American Journal of Pharmacy, Dec. 1888-Nov. 1889. The Editor.
- American Naturalist, 1889, November and December; 1889, Jan.-May. July. The Editor.
- American Notes and Queries, III, 2. The Editor.
- American Philosophical Society. Proceedings, No. 129. The Society.
- Franklin Institute. Journal, Nos. 756-767. The Society.
- College of Pharmacy. Alumni Association, 25th Annual Report.  
The Society.
- Dental Cosmos, XXX, 12-XXXI, 11. The Editor.
- Historical Society of Pennsylvania. Pennsylvania Magazine of History and Biology, XII, 4-XIII, 3. The Society.
- Journal of Comparative Medicine and Surgery, X, 1-4.  
I. V. Williamson Fund.
- The Medical News, 1889, No. 872. The Editor.
- Medical and Surgical Reporter, LIX, 22-LXI, 21. The Editor.
- Microscopic Bulletin. Feb.-Dec., 1889. The Editor.
- Naturalists' Leisure Hour. 1889, Jan., March, April, August, November and December. The Editor.
- The Nautilus, Vol. III, 1. The Editors.

- Pennsylvania Forestry Association. Forest Leaves, II, 2. The Society.  
 Polyclinic, VI, 6. The Editor.  
 Zoological Society. 17th Annual Report. The Society.
- Pisa. Società Malacologica Italiana. Bullettino, XIII, pp. 209-251; XIV, pp. 1-150. The Society.  
 Società Toscana di Scienze Naturali. Atti. Processi Verbali I, Index; 1884 p. 113 124; IV, 147-165; V, 57-76; VI, p. 141-186, 189-252 Memorie IX. The Society.
- Portland. Society of Natural History. Proceedings, Session 1880-81. 9th and 10th; 1881-82, 10th; 1888-89, 9th. The Society.
- Prag. K. B. Gesellschaft der Wissenschaften. Sitzungsberichte, 1888. Jahresbericht, 15 Jan., 1888. Abhandlungen, 7e Folge, II. The Society.  
 Lotus Verein. Jahrbuch für Naturwissenschaften, 1852-1868, 1870-1875, 1880, 1882, 1883, 1885, 1888, 1889. The Society.
- Princeton. Princeton College Bulletin, I, 1. The Editor.
- Quebec. Literary and Historical Society. Transactions, Sessions 1887, 1889, No. 19. The Society.
- Raleigh. Elisha Mitchell Scientific Society. Journal, VI, 1, 2. The Society.
- Regensburg. K. B. botanische Gesellschaft. Flora, XLVII, 1, 2, 3; Jahr. 46. I. V. Williamson Fund.
- Riga. Naturforscher Verein. Correspondenzblatt, XXXI. The Society.
- Rio de Janeiro. Observatoire Impérial. Bulletin Astronomique et Météorologique. Revista, 1889 No. 1-12. The Director.
- Riverside, Cal. The Old Curiosity Shop, Vol. VIII, 11. The Editor.
- Rome. R. Accademia dei Lincei. Atti., Ser. 2, IV, 6-12 and Index; V, 1-10, 12; VI, 5; 2 Semestre 1-4. The Academy.  
 Archives Italiennes de Biologie, X, 3; XI, 1-3; XII, 1, 2. I. V. Williamson Fund.
- Biblioteca Nazionale Centrale Vittorio Emanuele di Roma. Bollettino, 1889. The Librarian.
- Società Geografica Italiana. Bollettino, Ser. III, Vol. I, 10-12; II, 1-9. The Society.
- Società degli Spettroscopisti Italiani. Memorie, XVII, 10, 12; XVIII, 1-5, 7-10. The Society.
- St. Anthony Park. University of Minnesota. Experiment Station of the College of Agriculture. Bulletin, Nos. 5-8. The Director.
- St. Gallen. St. Gallische naturwissenschaftliche Gesellschaft. Bericht, 1886-87. The Society.
- Saint John. Natural History Society of New Brunswick. Bulletin, No. 8. The Society.
- St. Louis. Academy of Sciences. Transactions, V, 1, 2. The Academy.  
 Public Library. Annual Report, 1887-88. The Librarian.
- St. Petersburg. Académie Impériale des Sciences. Mémoires, XXX, 3-10. Bulletin, XXVIII, 3-XXXII, 1. The Academy.
- Hortus Universitatis Imperialis Petropolitanae. Scripta Botanica, II, 2. I. V. Williamson Fund.
- Imp. russkoye geographicheskoye Obshtchestvo. Izvestiya, XXIV, 3-XXV, 3. The Society.
- Physikalische S. Central Observatorium. Annalen, 1887, I, II. The Director.
- Societas Entomologica Rossica. Horae-XXII. The Society.
- Salem. Essex Institute. Bulletin, XX, 1; XXI, 6. The Society.
- San Diego. West American Scientist, VI, 45, 48. The Editor.
- San Francisco. California Academy of Sciences. Proceedings, 2nd Ser. I, 1, 2. Memoirs, II, 2. The Society.  
 Florist and Gardener, I, 7. The Editor.  
 Free Public Library. Annual Report, June 30th, 1889. The Librarian.  
 Mercantile Library Association. 36th Annual Report. The Librarian.
- San José. Museo Nacional Republica de Costa Rica. Anales, 1887, Paris 1, 2. The Director.

- Santiago. Wissenschaftlicher Verein. Verhandlungen, 6 H. The Society.
- Scranton. Lackawanna Institute of History and Science. Proceedings and Collections, 1. Chas. E. Smith.
- Shanghai. Royal Asiatic Society, China Branch. Journal, Vol. XXIII, 2. Miss A. M. Fielde.
- Siena. R. Accademia dei Fisiocritici. Atti. Ser. IV, Vol. I, 1-7. Sezione dei cultori delle Scienze Medici. Bollettino, VI, 8-10. The Academy.
- Springfield. Illinois Industrial University. 14th Report. The Director.
- Stettin. Entomologischer Verein. Entomologischer Zeitung, XXVI, XXVII, XLVI. The Society.
- Stockholm. Biologiska Föreningens. Förhandlingar, Bd. I, 1-8. The Society.
- Entomologisk Tidskrift, IX, 1-4. The Editor.
- Geologiska Förening. Förhandlingar, X, 6, 7; XI, 1-5. The Society.
- K. Vetenskaps Akademien. Bihang till K. S. V. A. Handlingar XIV, 1-4. The Society.
- Ofersigt, 1889, No. 1-10. The Society.
- K. Vitterhets Historie och Antiquitets Akademien. Monadsblad, 1887. The Academy.
- Svenska Sällskapet för Anthropologi och Geografi. Ymer Tidskrift, 1888, No. 1-6. The Society.
- Strassburg. Naturhistorisches Museum. Bericht, 1836-89. The Director.
- Stuttgart. Forschungen zur Deutschen Landes und Volkskunde, III, 3-5; IV, 1. I. V. Williamson Fund.
- "Humboldt," 1889, 1-11. I. V. Williamson Fund.
- Neues Jahrbuch für Mineralogie, Geologie und Palaeontologie, 1889, I, 1-3; II, 1, 2; VI, Beilage Bd. 2 H. I. V. Williamson Fund.
- Verein für vaterländische Naturkunde in Württemberg. Jahresheft, 45. The Society.
- Switzerland. Schweizer Alpen-Club. Jahrbuch, 24er Jhrg. 1888-89 and Supplement. 4 maps in roll. The Society.
- Schweizerische Naturforschende Gesellschaft. Verhandlungen, Jahresversammlung 71. The Society.
- Sydney. Australian Museum. Report of the Trustees for 1888. The Trustees.
- Linnean Society of New South Wales. Proceedings, III, 2-4; IV, 1 and List. The Society.
- Royal Society of New South Wales. Journal and Proceedings, XXII, 1, 2. The Society.
- Taunton. Somersetshire Archaeological and Natural History Society. Proceedings, XXXIV-XXXVIII. The Society.
- Tokio. Medicinische Facultät der Kaiserlich-Japanischen Universität. Mittheilungen, I, 2. The University.
- Sei i Kwai, or Society for the Advancement of Medical Science in Japan, VII, 12; VIII, 5-10. The Society.
- Topeka. Kansas State Historical Society. 6th Report. The Society.
- Washburn Laboratory of Natural History. Bulletin, II, 9. The Director.
- Toronto. Canadian Institute. Annual Report, 1888. Proceedings, VI, 2. The Institute.
- Entomological Society. Annual Report, 1888. The Society.
- Toulouse. Académie des Sciences, Inscriptions, et Belles-Lettres. Mémoires, X. The Academy.
- Revue Mycologique, Nos. 1-4, 7-21, 23, 24, 26, 27, 30, 31, 37-44. The Editor.
- Société d'Histoire Naturelle. Bulletin, 1888 Jan-Sept., XXII Année, pp., 169-207; XCVII-CXI. The Society.
- Trenton. Natural History Society. Journal, II, 1. The Society.
- Trieste. Società Adriatica di Scienze Naturali. Bollettino, XI. The Society.
- Tromsø. Museum. Aarshefter, IV, V, X, XI, XII. Aarsberetning, 1888. The Director.
- Truro. Royal Institution of Cornwall. Journal, V-XIX, XXI, XXIII. The Society.

- Turin. R. Accademia delle Science. Atti, XXIII. Memorie, Ser. 2a XXXVIII. The Academy.  
 Musei di Zoologia ed Anatomia comparata della R. Università. Bollettino, Nos. 49-65. The Director.
- United States. American Association for the Advancement of Science. Proceedings, XXXVII. The Society.  
 American Pharmaceutical Association. Proceedings, Vol. 36. The Society.
- Upsal. Observatoire de l'Université. Bulletin météorologique, Vol. XX. The Director.
- Skandinavisches Archiv für Physiologie, Band I, 1-6. I. V. Williamson Fund.
- Utrecht. K. Nederlandsche Meteorologisch Instituut. Jaarboek, 1879 Part, 2; 1888. The Institute.  
 Provinciaal Utrechtsch Genootschap van Kunsten en Wetenschappen. Verslag, 1888. Aanteekeningen, 1888. The Society.
- Venice. L'Ateneo Veneto. Ser. XIII, Vol. I, 1-4; II, 3, 4. The Director.  
 Notarisia, Commentarium Phycologicum, I, 13-15 and Index. The Editor.  
 R. Istituto Veneto di Scienze, Lettere ed Arti. Atti. V, 10; VI, 1-9. The Society.
- Vienna. Embryologische Institute der K. K. Universität in Wien. Mittheilungen, 1888. I. V. Williamson Fund.
- K. Akademie der Wissenschaften. Sitzungsberichte, mathematisch-naturwissenschaftliche Classe XCV Bd. I, 1-5; II, 3, 5; III, 1-5; XCVI Bd. I, 1-5; II, 1-5; III, 1-5; XCVII, I, 1-4; IIa 1-7; IIb 1-7; III, 1-6; 1889, 1-18. Denkschriften, 53er, 54er Bd. The Academy.
- K. k. Central Anstalt für Meteorologie und Erdmagnetismus. Jahrbücher, XXIV, 1887. The Director.
- K. k. geographische Gesellschaft. Mittheilungen, XXXI, 1888. The Society.
- K. k. geologische Reichsanstalt. Jahrbuch, XXXIV, 1, 2; XXXVIII, 3, 4. Verhandlungen, 1888 Nos. 14-18; 1889, No. 1-12. The Society.
- K. k. zoologisch-botanische Gesellschaft. Verhandlungen, XXXVIII, 3, 4; XXXIX, 1, 2. The Society.
- Mineralogische und petrographische Mittheilungen, X, 4-6. I. V. Williamson Fund.
- K. k. naturhistorisches Hofmuseum. Annalen, III, 3, 4; IV, 1-2. The Director.
- Ornis. Internationale Zeitschrift für die gesammte Ornithologie, V, 1-3. I. V. Williamson Fund.
- Verein zur Verbreitung naturwissenschaftlicher Kenntnisse. Schriften 28er Bd. The Society.
- Wiener illustrierte Garten-Zeitung, 1886 H, 6-12; 1889, 11. Thomas Meehan.
- Zoologisches Institut. \* Arbeiten, VIII, 1. I. V. Williamson Fund.
- Washington. American Monthly Microscopical Journal, IX, 5-12; X, 1-10. The Editor.
- Anthropological Society of Washington. The American Anthropologist, 1889, II, 1-4. The Society.
- National Geographic Society. National Geographic Magazine, Vol. I, 1-4. The Society.
- United States Fish Commission. Bulletin, VII, 8; pp 129-400. The Commission.
- United States National Museum. Proceeding, 1888, pp. 129-670. The Director.
- United States' Publications. Monthly Catalogue, IV, 9, 10; V, 1-9. I. V. Williamson Fund.
- The Washington Book Chronicle and Bulletin of Government Publications, I, 1. The Editor.

- Wellington. New Zealand Institute. Transactions, XXI. The Society.  
White Sulphur Springs, W. Va. The Loon, Vol. I, 2-10. The Editor.  
Wiesbaden. Nassauischer Verein für Naturkunde. Jahrbücher, Jahrg., 41, 42. The Society.  
Wilkesbarre. Wyoming Historical and Geological Society. Proceedings, II, 1. Angelo Heilprin.  
Worcester. American Antiquarian Society. Proceedings, V, 3; VI, 1. The Society.  
Würzburg. Botanisches Institut. Arbeiten, III, 4. I. V. Williamson Fund.  
Physikalisch-medicinische Gesellschaft. Verhandlungen, XXII. Sitzungs-  
berichte, 1888. The Society.  
Zoologisch-zootomisches Institut. Arbeiten, IX, 1. I. V. Williamson Fund.  
Yokohama. Asiatic Society of Japan. Transactions, XII, 2, 3. The Society.  
Seismological Society of Japan. Transactions, II, V, VIII, 1. The Society.  
Zwickau. Verein für Naturkunde. Jahresbericht, 1888. The Society.

















